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in cooperation with  
CPES – Universidade Lusofona  
CICPRIS – Universidade Lusofona  
Fundacao para a Ciencia e a Tecnologia (FCT)  
Faculty of Management University of Warsaw  
Faculty of Law, Economics and Social Sciences Sale - Mohammed V University in Rabat  
Polytechnic of Medimurje in Cakovec



# Economic and Social Development

62<sup>nd</sup> International Scientific Conference on Economic and Social Development

## Book of Proceedings

Editors:

Ana Lorga da Silva, Tomislav Rados, Olga V. Kaurova



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## **Economic and Social Development**

62<sup>nd</sup> International Scientific Conference on Economic and Social Development

### **Book of Proceedings**

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## RISK TAKING, EXPERIENCE, AND RETIREMENT SAVINGS

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### **ABSTRACT**

*This research analysed a unique large-scale sample of Slovak retail investors. The main aim of the research was to explore the determinants of investment choices in building retirement savings. In the long term, risky assets generate substantially higher returns than do riskless ones. For the vast majority of retail investors the saving structure was inadequate for the long-term accumulation of pension assets. Shares of risky assets out of total assets were quite low. The research focused on three determinants of investment choices: (1) sociodemographic variables, (2) investors' attitudes towards financial and general risks, and (3) investment competences. The sociodemographic variables (age, gender, education, and number of financially dependent family members) were statistically significant, but their explanation power was rather low in explaining the saving structure. The investment horizon was the only sociodemographic variable with a medium-high association with the structure of retirement savings. Attitudes towards financial and general risks had a high impact on the structure of retirement savings. Perceived investment expertise was well correlated with the actual structure of retirement savings. The higher the perceived expertise and tolerance of financial risks, the higher the share of risky assets out of total assets.*

**Keywords:** *Risk taking, investment experience, retirement savings*

### **1. INTRODUCTION: DETERMINANTS OF RETIREMENT SAVING STRUCTURE**

Europe faces challenges of population ageing. The numbers of population of a working age are on the decline, while the numbers of population aged 65+ are on the rise. Population ageing takes a toll on public finance. Costs of the pension burden will increase significantly in the coming decades in the EU. Many EU member countries encourage private saving schemes for retirement. Saving accumulation is impacted by the amount of contribution payments, the length of accumulation, and the structure of an investment portfolio. Risky assets, such as stocks and stock funds, outperform safe investments over a long-term period. Yet, many investors prefer riskless assets to risky ones. The choice of assets is subject to the availability of investment resources, personal preferences, the availability of financial products, market situations, and a plethora of other factors. Not all of these factors can be captured and quantified by researchers. Specific research methods differ in their ability to collect evidence on factors impacting investment choices. Qualitative methods, such as in-depth and semi-structured interviews, are able to report many interesting details on investment goals, preferences, and investment strategies. Qualitative methods are time-consuming and allow for limited sample sizes. Large-scale surveys, on the other hand, may cover large populations and yield strong quantitative evidence on specific aspects of retirement savings. Large-scale surveys, however, have to focus on a limited number of issues. The survey design (questionnaire) imposes some limitations on the flexibility of scientific investigation. The literature review on retirement saving choices indicated that 'socio-demographic factors have been in the spotlight of most retirement saving studies and less interest has been shown to social and psychological factors' (Gough and Niza 2011: 110). Evidence from large-scale surveys, such as the US Health and Retirement Study (HRS) (Barsky et al. 1997; Sahm, 2012), the US Survey of Consumer Finances (SCF) (Fisher and Yao 2017), and the German Socio-Economic Panel (SOEP)



(Dohmen et al. 2017), points to the existence of a ‘general risk trait’. People with high general risk tolerance are more likely to engage in some risky behaviours, such as fast driving, undertaking risky sports, gambling, drinking, smoking, making migration decisions and/or starting a business. Furthermore, the general risk trait is related to the willingness to invest in risky financial assets, such as stocks or stock funds. Risk preferences are persistent and moderately stable over a life cycle. There is a general agreement that risk tolerance declines with time (Dohmen et al. 2017: 114), but differences in the tolerance of various risky behaviours persist over time (Schildberg-Hörisch, 2018: 148). The risk trait does not seem to be impacted by major life events, such as job loss, marriage, divorce and/or serious changes in health conditions. Persistent differences across individuals account for over 70% of the systematic variation (Sahm 2012). The effect of age on risk tolerance is subject to debate. The decline in risk tolerance over time may be explained by a mix of pragmatic and health-related motives. Older investors may consider a time horizon for recouping market losses (Yao et al. 2011). Losses at the age of 25 are much more likely to be offset than at the age of 60. Investment in stock funds and considerations of loss-to-return ratios may require higher efforts than investment in riskless assets. Declining cognitive abilities may impact financial decisions on risky assets by elderly investors. Risk attitudes may primarily stem from the general risk trait, but actual behaviour is likely to be moderated by a number of sociodemographic and socioeconomic factors. Major factors include gender, age, education, income and wealth, and experience and practice in respect of specific activities. Males, for example, report higher tolerance of financial risks than do females (Barber and Odean 2000; Gibson et al. 2013). Recent studies indicate that gender differences in tolerating financial risks do exist (even accounting for age, income, and the saving horizon), but are related to specific independent variables rather than gender itself. The independent variables include higher income uncertainty and lower net worth (Fisher and Yao 2017: 200), less experience with financial products, and lower financial literacy of women than of men (Bannier and Neubert 2013: 133). Education is positively correlated with financial risk tolerance. People with lower education are more likely to decrease the share of risky assets after a financial downturn (Schooley and Worden 2016: 275). The willingness to invest in risky assets is moderated by perceived and actual competence in financial markets and products. There is a strong correlation between financial knowledge and retirement planning. People with more financial knowledge achieve a more optimal structure of their savings than do people with low levels of financial literacy. People with more knowledge and/or more experience with financial products and markets tend to invest more in risky assets. Investors with good investment knowledge do not overemphasise market risks even in times of financial crashes (Gibson et al. 2013: 34). The most financially knowledgeable US investors in the 401(k) retirement plans, for example, held significantly more stocks in their saving plans and can expect higher returns and pensions than those of the least sophisticated investors (Clark et al. 2017). But even people with basic financial knowledge and who understood risk diversification had higher wealth holdings, even controlling for income, education and gender (Lusardi and Mitchell 2011). Both subjective knowledge and objective knowledge of financial products and markets positively impact investors’ willingness to take risks (Wang 2009). Qualitative questions on the subjective tolerance of financial risks (‘How much financial risk would you accept?’) correlate well with the actual structure of personal investments. Hallahan et al. (2004) analysed a database of psychometrically derived financial risk tolerance scores (RTS) for a sample of 16,461 Australians. Self-assessed risk tolerance and RTS generally accorded. Moreover, questions on the subjective tolerance of financial risks (qualitative and quantitative ones) correlate with objective risk tolerance (as measured via the actual allocation of financial assets). Chang et al. (2004) used the SCF (N = 4,442) to determine whether subjective risk tolerance affects objective risk. The relation was highly significant. The survey of scientific literature on investment choices points to three main determinants of the

retirement saving structure: (1) sociodemographic variables, (2) risk preferences, and (3) investment competence. This paper analyses a unique large-scale sample of Slovak retail investors in order to explore the contribution of specific determinants of investment choices to the structure of retirement savings.

## **2. DATA SOURCES, RESEARCH HYPOTHESIS AND RESEARCH METHODS**

### **2.1. Data sources**

The data were provided by the Slovak branch of one of Europe's leading financial intermediary and consulting groups. The firm wished to know more about risk attitudes and determinants of financial investments by their clients. The research questionnaire was constructed and implemented online in 2018. Some 11,619 retail investors completed the questionnaire. The complete 13-item questionnaire (Q1–Q13) can be found in the appendix of this paper.

### **2.2. Research hypothesis**

The research tested key predictors of the saving structure. Based on the literature survey stated in the previous chapter, the research hypothesis stated:

*'Risk attitudes and investment competence are key predictors of investment choices and the saving structure. Sociodemographic correlates of retirement savings are of lower importance for investment choices and the saving structure than risk attitudes.'*

### **2.3. Research methods**

All variables (except for age) were coded in nominal and ordinal terms. A series of non-parametric tests were conducted in order to detect significant associations between the output variable 'share of risky assets in total financial assets' (Q13) and 12 input variables (Q1–Q12). Simple non-parametric tests were preferred to ordered logistic regression, as to highlight the relation between specific input and output variables. Goodman and Kruskal's gamma ( $\gamma$ ) is a rank-based measure of ordinal association in a two-way table. Its values range from -1 (100% negative association, or perfect inversion) to +1 (100% positive association, or perfect agreement). A value of zero indicates the absence of association. Cramer's V is used to examine the association between a nominal variable (gender) and Q13 (ordinal variable). The Pearson correlation coefficient analyses the correlation between a continuous variable (Q1, age) and other variables.

## **3. SOCIODEMOGRAPHIC CORRELATES OF RETIREMENT SAVINGS**

Age, gender, education, family structure, and investment horizon constituted the sociodemographic correlates of retirement savings.

### **3.1. Age**

The respondents reported their age in actual years. The mean age was 36.2 years (median 34.0, minimum 16, maximum 83). The relationship between age and asset allocation was observed via the Pearson correlation. The coefficient was statistically significant at a 0.001 level, albeit very low (0.031). We conclude that age has a very limited impact on choices of asset classes. The literature on sociodemographic correlates of risk tolerance suggests a U-shaped relation between age and the tolerance of financial risk. The youngest and oldest investors tend to be less risk-tolerant. The effect of age on the saving structure may have been obscured by income and wealth. Young people may have enough courage for risky investments but limited financial resources for investing in stocks. Membership in a building society was the most frequent type of investment for young investors. Some 48.7% of investors in the age group 16–35 reported this type of investment. Investment in stocks usually is associated with middle-age groups building retirement savings.

### **3.2. Gender**

Males accounted for 54.3% and females for 45.7% of the total sample. Females were slightly more likely to prefer safe investments over risky ones. Some 30.9% of females reported zero shares of risky assets and 8.3% stated that they had over 30% of savings in risky assets. The respective asset allocations constituted 27.7% and 10.7% for men. Cramer's V of 0.054 was significant at the 0.000 level, albeit quite low. We conclude that females opted for more conservative investments than did males, but the gender difference in investment strategy was low.

### **3.3. Education**

The survey was conducted on a sample of retail financial investors. Financial investments are subject to average and above-average disposable income. No details were available on investors' income and wealth. There usually is a positive relation between income and educational levels. The survey indeed oversampled a population with tertiary education. Some 32.5% of investors had a degree or were university students. We hypothesised that investors with higher education would invest disproportionately more in risky assets. Some 41.1% of investors with lower secondary education (ISCED 2 level), for example, reported riskless assets only, and 6.6% indicated a 30%+ share of risky assets out of total assets. As for the investors with tertiary education, the respective asset allocation shares constituted 25.9% and 11.5%. Goodman and Kruskal's gamma (0.126) for education and portfolio allocation was significant at the 0.000 level, albeit low.

### **3.4. Number of financially dependent family members**

The effect of family size on asset allocation is augmented not only by factors of income and wealth, but also by spending preferences. In lower-middle-class families, most income may be allocated to immediate consumption. There is limited room for financial investment. In upper-middle-class families, on the other hand, parents have more disposable income and more resources for financial investments. Such parents may be motivated to invest in their children's future education or housing. Some 31.9% of investors with no children, for example, reported riskless assets only, and 10.5% indicated a 30%+ share of risky assets out of total assets. As for the investors with three children, the respective asset allocation shares constituted 23.2% and 8.1%. Goodman and Kruskal's gamma for the number of financially dependent members and portfolio allocation (0.051) was significant at the 0.000 level. A positive sign of the coefficient indicated that families with a higher number of financially dependent members may have a slightly higher propensity to invest in risky assets. The coefficient, however, was quite low.

*Table following on the next page*

Table 1: Sociodemographic correlates of saving structure

X	none	less than 10%	10-20%	20-30%	over 30%	Total
Gender	Cramer's V = 0.054; Approx. T = 5.121; Aprox. Sig. = 0.000					
Female	1,641	1,886	784	555	441	5,307
Male	1,750	2,229	900	760	673	6,312
education	$\gamma = 0.126$ ; Approx. T = 10.674; Aprox. Sig. = 0.000					
primary	114	41	10	11	23	199
lower secondary	492	387	136	104	79	1,198
upper secondary	1,808	2,377	966	721	577	6,449
University student	52	58	22	21	22	175
bachelor	154	173	79	74	70	550
master and equivalent	736	1,030	442	359	312	2,879
PhD and equivalent	35	49	29	25	31	169
no of dependents	$\gamma = 0.051$ ; Approx. T = 4.582; Aprox. Sig. = 0.000					
none	1,933	2,005	833	649	635	6,055
one	668	873	351	280	180	2,352
two	515	747	315	230	176	1,983
three	235	419	156	122	82	1,014
four and more	40	71	29	34	41	215
investment horizon	$\gamma = 0.353$ ; Approx. T = 29.989; Aprox. Sig. = 0.000					
up to one year	913	291	28	16	10	1,258
two - three years	450	692	227	122	20	1,511
three- seven years	371	609	358	329	76	1,743
over seven years	1,657	2,523	1,071	848	1,008	7,107

Note: Source: author's own survey. Total sample: N = 11,619

### 3.5. Investment horizon

The choice of investment horizon may reflect both sociodemographic (age, education) and socioeconomic considerations (liquidity constraints, financial knowledge). Older investors may prefer shorter and less risky assets and time horizons, as to offset the potential risks of market crashes. The respective Pearson coefficient for age and investment horizon was -0.167 (significant at the 0.000 level). The coefficient indicates that with increasing age the investment horizon indeed shortens. Older investors, on the other hand, may have more financial knowledge and understand the effects of compounding on total return better than younger ones. The respective Pearson coefficient for perceived investment competence and the investment horizon was 0.410 (significant at the 0.000 level). The coefficient indicates that with increasing perceived competence the investment horizon indeed extends. Younger investors may prefer longer investment horizons, but their actual investment strategies may be impacted by liquidity constraints. Some 72.6% of investors with a one-year horizon, for example, reported riskless assets only, and 0.8% indicated a 30%+ share of risky assets out of total assets. As for the investors with a horizon of 7+ years, the respective asset allocation shares constituted 23.3% and 14.2%. Goodman and Kruskal's gamma for the investment horizon and portfolio allocation (0.302) was significant at the 0.000 level. A positive sign of the coefficient indicates that investors with longer investment horizons preferred higher shares of risky assets. The medium value of the coefficient suggests that the investment horizon was a stronger predictor of portfolio allocation than was any other sociodemographic variable.

## 4. ATTITUDES TOWARDS RISKS

### 4.1. Attitudes towards financial risks

Attitudes towards financial risks were analysed through one qualitative and two quantitative questions on the tolerance of financial risks (Table 2). Finally, subjective tolerance of financial risks was compared to the willingness to take risks in general ('general risk' attitude). The qualitative question on attitudes towards financial risk refers to a question on the US Survey of Consumer Finance. Since 1983 the SCF has implemented a qualitative question on financial risk tolerance: Which of the following statements on this page comes closest to the amount of financial risk that you are willing to take when you save or make investments? (1) Not willing to take any financial risks; (2) Take average financial risks expecting to earn average returns; (3) Take above-average financial risks expecting to earn above-average returns; and (4) Take substantial financial risk expecting to earn substantial returns. The same question was adopted in the 2018 Slovak survey. Some 55.2% of investors not willing to take any financial risks, for example, reported riskless assets only, and 1.7% indicated a 30%+ share of risky assets out of total assets. As for the investors willing to take substantial risks, the respective asset allocation shares were completely reverted: 6.7% and 45.6%. Goodman and Kruskal's gamma for hypothetical and actual portfolio allocation (0.546) was significant at the 0.000 level. The medium-high value of the coefficients indicates that there is a high overlap between self-rated risk tolerance and the actual structure of a portfolio. The qualitative question on subjective risk tolerance was complemented by two quantitative ones. The first quantitative question describes potential gains in terms of multiple returns on term deposits (TD) in banks. Relatively few Slovak investors have experience with stock funds. They possess limited knowledge on potential returns and losses incurred on stock markets. The majority of Slovak investors, on the other hand, had term deposits in a bank. It is easier for investors to frame potential returns in terms of bank term deposits. Four hypothetical portfolios were created. Each portfolio offered a different combination of potential returns and losses. The quantitative question on subjective risk tolerance essentially mirrors the qualitative one. The second quantitative question reframes the first one but gains are stated in absolute monetary terms instead of multiples of term deposits.

- *Hypothetical portfolio 1:* The first portfolio, for example, offered a low-return/no-loss strategy. Some 48.4% of investors preferring low-return/no-loss investments, for example, reported riskless assets only, and 2.3% indicated a 30%+ share of risky assets out of total assets. As for the investors preferring high-return/high-loss investments, the respective asset allocation shares constituted 8.7% and 39.3%. Goodman and Kruskal's gamma for family dependants and portfolio allocation (0.491) was significant at the 0.000 level.
- *Hypothetical portfolio 2:* The first portfolio, for example, offered a maximal return of €2,000 while guaranteeing no loss. Some 46.6% of investors preferring low-gain/no-loss portfolios, for example, reported riskless assets only, and 2.3% indicated a 30%+ share of risky assets out of total assets. As for the investors preferring high-gain/high-loss portfolios, the respective asset allocation shares constituted 10.5% and 39.5%. Goodman and Kruskal's gamma for hypothetical and actual portfolio allocation (0.491) was significant at the 0.000 level.

Medium-high values of the coefficients indicated that attitudes towards financial risks to a substantial degree translated to actual financial behaviours. The association is not perfect. Some investors may be willing to invest in risky assets but may lack proper knowledge on financial risks and/or experience budgetary constraints.

There is a question on the internal validity of the three questions on financial risk tolerance. The construct was developed by the US SCF and Grable and Lytton (1998) for American retail investors: Do Slovak retail investors react in the same way? The distribution of answers was fairly similar and the values of Goodman and Kruskal's gamma coefficients identical for two quantitative questions. It follows that framing did not impact the distribution of answers. Goodman and Kruskal's gamma coefficient for two quantitative questions was very high (0.818). The respective Goodman and Kruskal gamma coefficients for the qualitative question and the two quantitative questions on the subjective tolerance of financial risks constituted 0.793 and 0.779. Both coefficients were significant at 0.000 levels. High levels of association suggest that the construct of 'financial risk tolerance' is a valid measure for measuring personal attitudes towards financial risks across a population.

#### **4.2. General risk attitudes**

Two questions concerned psychological attitudes towards general risks. Both items refer to the questionnaire developed by Grable and Lytton (1998).

- The first question focused on internal psychological states generated by the perception of risk. The investors were asked how far they associated the word 'risk' with negative feelings (such as 'loss' or 'uncertainty') or positive ones ('opportunity' or 'excitement'). Some 51.1% of investors associating risk with 'loss', for example, reported riskless assets only, and 2.1% indicated a 30%+ share of risky assets out of total assets. As for the investors associating risk with 'excitement', the respective asset allocation shares constituted 11.3% and 39.7%. Goodman and Kruskal's gamma for 'risk feelings' and portfolio allocation (0.446) was significant at the 0.000 level.
- The second question observed the image of respondents, as perceived by an external audience ('best friends'). The investors were to select the opinion that they thought their best friends held about them. Some 60.5% of investors with a perceived 'risk avoider' image, for example, reported riskless assets only, and 1.3% indicated a 30%+ share of risky assets out of total assets. As for the investors with the perceived image of 'real gambler', the respective asset allocation shares constituted 11.3% and 41.4%. Goodman and Kruskal's gamma for 'opinion by best friends' and portfolio allocation (0.431) was significant at the 0.000 level.

The medium-high value of both coefficients indicated that attitudes towards financial risks are to a substantial degree explained by general risk tolerance.

*Table following on the next page*

Table 2: Risk attitudes and saving structure

	none	less than 10%	10-20%	20-30%	over 30%	Total
<i>Attitudes to financial risks</i>						
qualitative question	$\gamma = 0.546$ ; Approx. $T = 51.078$ ; Aprox. Sig. = 0.000					
no financial risk	1,153	626	170	106	35	2,090
average risks / returns	1,867	2,686	935	521	228	6,237
above average risks / returns	292	619	425	465	315	2,116
substantial risks / returns	79	184	154	223	536	1,176
hypothetical portfolios 1	$\gamma = 0.490$ ; Approx. $T = 49.796$ ; Aprox. Sig. = 0.000					
max 1.0-1.5 of TD; no loss	1,641	1,241	276	152	79	3,389
max 1.2-2.0 of TD; max loss 10%	1,131	1,805	730	344	178	4,188
max 2.0-3.0 of TD; max loss 25%	492	819	463	522	281	2,577
over 3.0 of TD; max loss 35%	127	250	215	297	576	1,465
hypothetical portfolios 2	$\gamma = 0.491$ ; Approx. $T = 48.988$ ; Aprox. Sig. = 0.000					
max +€2,000; no loss	1,777	1,394	368	195	81	3,815
max +€4,000; max loss €2,000	1,158	1,893	743	396	198	4,388
max +€7,000; max loss €5,000	313	579	396	473	299	2,060
max +€10,000; max loss €7,000	143	249	177	251	536	1,356
<i>Attitudes to 'general risk'</i>						
feelings about risks	$\gamma = 0.446$ ; Approx. $T = 42.248$ ; Aprox. Sig. = 0.000					
loss	793	499	142	88	32	1,554
uncertainty	1,500	1,651	519	295	130	4,095
opportunity	964	1,773	857	711	482	4,787
excitement	134	192	166	221	470	1,183
opinions by best friends	$\gamma = 0.431$ ; Approx. $T = 39.450$ ; Aprox. Sig. = 0.000					
risk avoider	452	211	50	24	10	747
cautious	1,698	2,084	600	392	169	4,943
moderate risk-taker	1,118	1,637	889	710	483	4,837
real gambler	123	183	145	189	452	1,092

Note: Source: author's own survey. Total sample:  $N = 11,619$ . Note: TD = term deposit

## 5. INVESTMENT COMPETENCE

### 5.1. Perceived investment competence

Perceived competence in financial investments was established via the following question: Could you please self-rate your competence in financial products and markets? The participants were offered the following statements: (1) My competence is rather limited; (2) I have some competence. I understand the difference between stocks and bonds; (3) I have moderate competence in financial products and markets; and (4) I have substantial competence in financial products and markets. Some 51.3% of investors claiming 'limited investment competence', for example, reported riskless assets only, and 2.3% indicated a 30%+ share of risky assets out of total assets. As for the investors claiming 'substantial investment competence', the respective asset allocation shares constituted 3.2% and 48.1%. Goodman and Kruskal's gamma for perceived competence and portfolio allocation (0.568) was significant at the 0.000 level. The medium-high value of the coefficient suggests that actual financial behaviour is to a substantial degree explained by perceived investment competence.

*Table 3: Perceived investment competence and saving structure*

x	None	less than 10%	10-20%	20-30%	over 30%	Total
	$\gamma = 0.568$ ; <i>Approx. T = 58.801</i> ; <i>Approx. Sig. = 0.000</i>					
limited competence	2,159	1,398	368	189	95	4,209
some competence,	995	2,038	792	480	319	4,624
moderate competence	216	585	431	514	385	2,131
substantial competence	21	94	93	132	315	655

*Note: Source: author's own survey. Total sample: N = 11,619*

## 5.2. Actual investment competence

Actual investment competence was measured via experience with financial products available on the Slovak financial market. The participants identified financial products that they had purchased in the past: (a) term deposit in bank; (b) life insurance; (c) building society; (d) voluntary pension fund; (e) money market fund; (f) hedge fund; (g) bond fund; and (h) balanced and stock fund. Risk-free products (a)–(f) received a score of 1, bond funds a score of 2, and balanced, stock and real estate funds a score of 4. The maximal possible score was 12. Actual financial competence was rather limited. The majority of investors had experience with bank deposits and saving with a building and loan association only. Some 51% of investors achieved a composite score of 2, and 77.1% a score of 4. Only 1.4% of investors achieved the maximal score of 12. Actual investment competence was compared to the perceived one. There was a medium-low association between actual and perceived competence. The respective Goodman and Kruskal gamma was 0.463 (approx.  $T = 49.090$ ;  $Sig. = 0.000$ ). The respective Pearson correlation coefficient had a similar magnitude: 0.458 ( $Sig. = 0.000$ ). The result indicates that perceived investment competence is a reasonable approximation of the actual one. Perceived and actual investment competence were compared to the actual structure of retirement savings. The respective Goodman and Kruskal gamma coefficients for perceived and actual investment competence and the actual structure of retirement savings constituted 0.568 and 0.341 (approx.  $T = 58.801$ ;  $Sig. = 0.000$ ; approx.  $T = 37.213$ ;  $Sig. = 0.000$ ). The somewhat lower coefficient for actual competence compared to the perceived one may seem counterintuitive. The explanation may refer to an intertemporal change in the levels of financial experience. The investors rated their current investment competence in the survey. Investment competence builds over time. The current portfolio structure reflects investment decisions made at different competence levels.

## 6. CONCLUSIONS

This research analysed a unique large-scale sample of Slovak retail investors. The main aim of the research was to explore the determinants of investment choices in building retirement savings. Based on the literature review, the research concentrated on three determinants of investment choices: (1) sociodemographic correlates of retirement savings, (2) investors' attitudes towards financial and general risks, and (3) investment competences. The key results of the research can be summarised as follows:

- The sociodemographic correlates of retirement savings (age, gender, education, and number of financially dependent family members) indeed were statistically significant, but their explanation power was rather low in explaining the saving structure. The investment horizon was the only sociodemographic variable with a medium-high association with the structure of retirement savings. The investment horizon, however, was more shaped by variables of competence and risk tolerance than by variables of age, gender, education, and the number of financially dependent family members.
- Three standard international questions on the tolerance of financial risks and two questions on the tolerance of general risks were applied in order to explore the relation between risk



tolerance and the structure of retirement savings. It transpired that attitudes towards financial risks had a high impact on the structure of retirement savings.

- Finally, the research indicated that perceived investment expertise was well correlated with the actual structure of retirement savings. The higher the perceived expertise and tolerance of financial risks, the higher the share of risky assets out of total assets.

The research has some important policy implications. In the long term, risky assets, such as balanced and stock funds, generate substantially higher returns than do riskless ones. For the vast majority of retail investors the saving structure was inadequate for the long-term accumulation of pension assets. Only 9.6% of investors indicated a 30%+ share of risky assets out of total financial assets. Some 35.4% of investors reported a 0–10% share and 29.2% had no risky investments at all. No public policy can impact sociodemographic variables. The risk preferences seem to be stable over a life cycle and difficult to change through public policies. Investment competence, however, can be boosted through financial education. Improvement in financial knowledge, therefore, may improve decision making and the outcomes of financial decisions. This research found perceived investment competence to be the strongest predictor of the retirement saving structure. Financial education is an important policy option for encouraging financial planning, saving, and better portfolio choices. Policies on financial education may include incorporating financial education into school curricula, seminars, and consumer advice, but also behavioural techniques with which to ‘nudge’ people into specific investment decisions (Lewis and Messy 2012: 31).

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## APPENDIX

### Questionnaire

Q1: Age: ..... years.

Q2: Gender: female: 0; male: 1.

Q3: Education: 1: primary; 2: lower secondary; 3: upper secondary; 4: university student; 5: bachelor, master or equivalent; 6: PhD or equivalent.

Q4: Please tell us how many family members (children, spouse) are financially dependent on you? 0: none; 1: one; 2: two; 3: three; 4: more than three.

Q5: What is your investment horizon? Suppose you do not need to cancel your investment. 1: one year; 2: two to three years; 3: three to seven years; 4: over seven years.

Q6: Which of the following statements comes closest to the amount of financial risk that you are willing to take when you save or make investments? (1) Not willing to take any financial risks; (2) Take average financial risks expecting to earn average returns; (3) Take above-average financial risks expecting to earn above-average returns; (4) Take substantial financial risk expecting to earn substantial returns.

Q7: Hypothetical portfolio 1: Imagine you invest for 10 years. Given the best and worst case returns of the four investment choices below, which would you prefer? (a): 1.0–1.5 times of term deposit gain best case; zero gain/loss worst case; (b) 1.5–2.0 times of term deposit gain best case; 10% loss worst case; (c) 1.5–2.0 times of term deposit gain best case; 25% loss worst case; (d) over 3.0 times of term deposit gain best case; 35% loss worst case.

Q8: Hypothetical portfolio 2: Imagine you invest €20,000 for 10 years. Given the best and worst case returns of the four investment choices below, which would you prefer? (a): €2,000 gain best case; zero gain/loss worst case; (b) €4,000 gain best case; €2,000 loss worst case; (c) €7,000 gain best case; €5,000 loss worst case; (d) €10,000 gain best case; €7,000 loss worst case.

Q9: When you think of the word “risk”, which of the following words comes to mind first? (a) loss; (b) uncertainty; (c) opportunity; (d) thrill.

Q10: In general, how would your best friend describe you as a risk taker? (1) A real risk avoider; (2) Cautious; (3) Willing to take risks after completing adequate research; (4) A real gambler.

Q11: How would you rate your investment competence? (a) My investment competence is limited so far; (b) I have some competence. I can tell the difference between stocks and bonds; (c) I have moderate competence. I think I know what gains can be expected from specific asset classes; (d) I am a competent investor. I have substantial knowledge on investment strategies and products.

Q12: Please tell us which of the following financial products you have invested in: (a) term deposit in bank; (b) life insurance; (c) building society; (d) voluntary pension fund; (e) money market fund; (f) hedge fund; (g) bond fund; (h) balanced and stock fund.

Q13: Please consider your total financial assets. What is the share of risky assets in total assets? The risky assets include stock funds, balanced funds, and real estate funds. 1: I have no such investments; 2: up to 10%; 3: up to 20%; 4: up to 30%; 5: over 30%.

## **ADAPTABILITY OF BULGARIAN EDUCATION SYSTEM TO THE OCCURRED PANDEMIC SITUATION**

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### **ABSTRACT**

*This study represents an attempt to briefly analyse the labour market situation in Bulgaria during the pandemic crisis and to find a solution to new challenges our education system shall face. Through changes in the educational environment the authors tried to formulate and define teaching methods, organization and management of the values changing process, creation of new culture of the school community, emphasis on the project-based educational process, increase in students' learning motivation through experience, development of key competencies so that learners can meet the requirements of the dynamic labour market – the ability to independently gain knowledge and planning skills.*

**Keywords:** *Education, Unemployed people, Crisis situation, Social policy*

### **1. INTRODUCTION**

Knowledge of psychological and professional aspects of the social adaptation of various categories of staff (workers and employees) forced by the circumstances to change their professional field or temporarily to stay unemployed is a key element of developing and implementing the right policies for interaction between various structures and authorities engaged in this process at different levels. While developing behaviour models and policies for promoting professional and social mobility it is vital to know the processes that have made a significant number of people vulnerable and subject to “social” intervention through various programmes, measures or special social methods.

### **2. EDUCATIONAL REFORMS AND SOCIAL ADAPTATION DURING PANDEMIC**

Undoubtedly, the COVID-19 pandemic is a challenge for everyone involved in social engineering - both at the highest management level in the country and in the scientific community, and who are called to seek, research and propose appropriate solutions, mechanisms and projects to deal with the crisis situation. Searching and finding the right solutions in this direction demands not only specific skills and competencies, but also rich experience, information and knowledge of the situation. This challenge cannot and should not be a responsibility of one person only, but of a group of scientists, researchers and politicians with expertise, which would help develop objective and appropriate action plan. In order to find such solution or solutions we need to take into account the following circumstances:

- social and economic situation right before the crisis, in this case COVID-19 pandemic;
- scope of the pandemic and measures for physical distancing undertaken to control the outbreak;

- actions of government authorities to neutralize the negative effects of physical distancing measures;
- pace of recovery and returning to normal life and economic activity.

The situation on the eve of the pandemic could be briefly described as “in anticipation of a crisis”, which is indicative of certain economic and social processes that have taken place. The world has been in a ten-year period of economic growth, showing the first signs of an impending economic crisis. Whether these expectations are the result of real analysis or of an empirical transfer of the situation from previous periods is a matter of detailed analysis. Bulgaria's economy as part of the EU economy and processes and the world economy is no exception. The real estate market is overrated enough and there is enough evidence for that. We can already observe the first signs of slowing down in the construction sector, that employs a large number of undereducated people, and their skills are based on the previous work experience. Regardless of the situation, the banking sector is relatively ready to respond adequately, banks are capitalized and have resources, which allows low interest rates, so this is a sufficient argument for maintaining construction and related activities at an acceptable level. The service sector, which also employs a sufficient number of undereducated people, is prospering. Mostly these are the tourism industry and the service sectors. In 2019, it marked significant development (Fig. 1-2). Both sectors mentioned above are characterized by shortage and even a lack of sufficient and well-trained staff, and in some cases, there is even the need to import labour force from countries outside the European Union (Terziev, 2019-g).



Figure 1: Unemployment rate (2020)  
(Source: National Employment Agency)

Meanwhile, the policies implemented on the labour market to support the development of labour force suitable for these sectors of the Bulgarian economy, do not give a positive result. It is clear to everyone that this process is long enough and its results will be visible only after ten years or so. Professional orientation and acquisition of professional skills are part of the market mechanisms that are expected to take place, but unfortunately, they still remain on theory.

The need for a sufficient number of effective tools to influence this process on the labour market is becoming more necessary and there are all the prerequisites that lead to an objectified policy to support this social process. The actions of the relevant social institutions, such as ministries, national tripartite bodies, local regional employment commissions and regional councils for regional development, should propose the best possible way to meet the emerged needs and take into account future ones. There is enough sociological and analytical research in this area, but the insufficiently good planning of these activities and leaving them only to the regulatory function of market mechanisms has led to serious problems in this area.

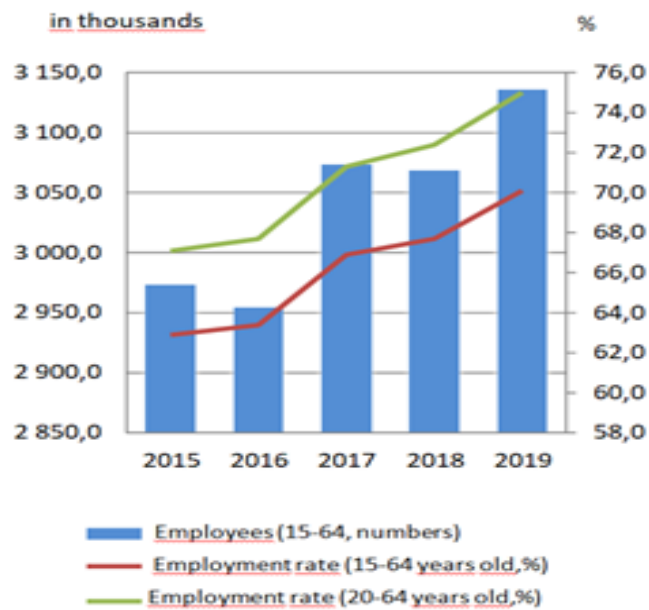


Figure 2: Employees, 2015-2019(2020)  
(Source: National Employment Agency)

This is a brief and by no means detailed analysis of Bulgaria entering the crisis situation caused by the COVID-19 epidemic. The introduced physical distancing measures test all sectors of the country's economy, as well as its education system. In a period of difficulties, when it is necessary to make quick decisions about the unusual problems that have arisen, we can most clearly observe the advantages and disadvantages of all systems in our society, i.e. health, social, educational, defence, etc. The need for readjustment on the go helps measure the efficiency and effectiveness of each of these systems. This is a time to define the needs of innovation and to specify strategies for development not only in the short term, but those that would meet these challenges (Terziev, 2019h-i; Terziev, 2020a). In this regard, it is education system that, though indirectly, yet very significantly affects the other systems and the overall development. The education system even in a normal situation is constantly under pressure, and now even more so. It has to give knowledge and skills, but it must also teach adolescents to be adaptable to changing conditions. It appears that there are no ready-made solutions as to how and in what way to adapt. In this line of thought, we can draw definite conclusions that the ability to adapt combines a wide range of knowledge, skills, gained experience and even a certain innovation. We naturally put applied scientific knowledge in the first place, i.e. applied science, as well as geography, history, nature, etc., as well as knowledge of social organization, functioning of social relations and systems themselves, the laws that govern them, opportunities for analysis and forecasting, etc. In order to support our statement, we provide a brief overview of the situation in the above-mentioned sectors – tourism and construction, in the event of a pandemic crisis.

With the introduction of State of emergency, all eateries, as well as entertainment establishments are closed. The restaurants are given the opportunity to sell and deliver prepared food, but without consumption on the premises. Although hotels are not formally closed, their activities are very limited and most of them close completely. This leaves virtually all employees unemployed, such as waiters, bartenders, most kitchen workers, service personnel, etc. Thus, according to preliminary estimates, in a very short period of time over 100,000 people lose their jobs and enter the labour market. Others go on long unpaid leave. The registered unemployed are mainly uneducated or with primary education and poor competencies. One of the opportunities for them is to benefit from the social protection of the state by receiving unemployment benefits, which are provided after registration with the local labour bureau and the territorial division of the National Social Security Institute. The amount and period of receiving the cash benefit depends on the total length of service and the amount of the remuneration received during the last year and is regulated by the Social Insurance Code. Another real possibility is to redirect the unemployed as quickly as possible to sectors that can continue their work and need workforce. It should be noted that the imbalances in this direction are large enough. Despite the fact that there is a large number of vacancies in the primary labour market, they remain free for a long time due to various reasons – remote settlements, lack of qualified labour force and many others. The possibilities of the education system to implement social programming and social policy to support this process are sufficiently objective and can be assessed as good. In this line of thought we can define several ways of action:

- Supporting the process of personal motivation to make a desired change. Each person is unique, has their own peace of mind and values, has conservative beliefs or, on the contrary, is open to change. The education system, especially school education, has to introduce such technologies and innovations in the learning process so that the adolescents develop a desire for change, use every opportunity and believe that everyone controls their own life and actions;
- Acquisition of knowledge in different areas, which would allow transition to another profession easier. Of course, this does not have to be on an academic level, but basic knowledge in different areas, so that with a little additional training it is enough to practice a new profession;
- Durability of knowledge. In order to keep knowledge for a long period of time and be able to use for work, we need teaching and learning methods that imply deep understanding of the subjects, because by just memorizing information there can be no lasting knowledge.

Thus, in practice, the health crisis very clearly defines the areas that need our targeted action, i.e. introduction of innovation and new social technologies. The education system, although coping with the rapid transition from traditional to distance learning or e-learning, needs to be reoriented and focused on students' early professional orientation. It is necessary to analyse whether this process, in addition to certain positive moments, does not harm the learners. It is noteworthy that there are already some visible results through promotion and implementation of STEM training programmes in Bulgarian schools. The abbreviation STEM (Science, Technology, Engineering, and Mathematics) in education means educating students in different disciplines – natural sciences, technology, engineering and mathematics. The natural sciences combine physics, biology, chemistry, astronomy, logic and statistics. The main goal of STEM training is development of thinking, either mathematical, logical or engineering. STEM learning is based on an integrated approach and methodology that puts the student at the centre of learning and encourages knowledge acquisition through project-based learning, experience, creativity and experimentation. The development of logical and engineering thinking contributes to the acquisition of certain lasting knowledge, ensuring inner confidence, adaptability and personal self-realization.

By implementing STEM learning environment, we break the stereotype of traditional physical environment at school and achieve a creative environment and learning spaces, which will enable the implementation of innovative models of education and upbringing. By changing the educational environment, equipping modern creative laboratories, changing the way of teaching, organization and management of school processes we can achieve:

- change of values: a student with their needs, interests, psychological and personal peculiarities is put at the centre of the learning process;
- creation of community culture in schools;
- development of teamwork skills;
- emphasis on the project-based education process;
- improvement of students' motivation by learning through experience;
- development of key competencies so that the students meet requirements of the dynamic labour market, i.e. abilities to acquire knowledge independently, planning skills, forecasting, analysis and presentation of the results;
- development of mathematical and logical thinking;
- critical thinking and self-criticism;
- responsibility towards undertaking tasks and their solving;
- improvement of skills needed for solving real life and business cases;
- ability to check and consolidate knowledge through practical application;
- increase of students' commitment and responsibility to upgrade skills and competencies that meet modern needs of the society;
- reduced aggression and intolerance among students;
- students' motto become: "I want! I can! I know!"

At the same time, teachers are expected to:

- be moderators and partners in the educational process;
- reconsider methods and ways of teaching and evaluating in order to support and facilitate the learning process;
- desire to achieve functional literacy in all disciplines, using interdisciplinary modules of educational content;
- increased motivation to acquire new skills and competencies through additional specializations;
- successful communication and involvement of all participants in the educational process and the school community to implement the mission and vision of the school.

To achieve these goals, we need to mobilize the entire school community, including teachers, parents, school management, public council, local government, etc. Parents with appropriate professions can pass on their experience and skills. Teaching staff, not only teachers in the specific disciplines, should be directly involved in carrying out multidisciplinary lessons and events. The school management and the public council support and encourage the establishment of STEM training programmes in school. The learning content of STEM requires adaptation of the curricula and programmes of study, which is done in coordination with the relevant REM (Regional Education Management). The commitment of every school community member, respectful relationships, tolerance and cooperation with each other at all stages of the educational process definitely improve the conditions of the school environment, which contributes to improved quality of the educational process, increased competitiveness of the modern school and availability of educational services that meet the high demands of society (Terziev, Lyubcheva, Solovev, 2020b; Terziev, Bogdanova, 2019j).



### 3. CONCLUSION

Through launching the National Programme “Creating STEM learning environment at school” the Ministry of Education and Science to certain extent has defined the need of innovation in education aimed at timely students` professional orientation. In this case, we are talking about the interactive innovation with an expected indirect result. Achieving the programme goals in the long-term perspective will have a large-scale economic effect. The result of the promotion and implementation of this innovation can be determined by the society behaviour in crises such as the one caused by COVID-19 in the spring of 2020.

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## **DIGITAL CHALLENGES FOR SMES ORGANISATIONS IN HUMAN CAPITAL INVESTMENTS AND CHANGE**

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### **ABSTRACT**

*As the human resource has been considered as tactical, cultural and human capital, worth of employees, and an organizational asset, its accounting and disclosure aspects are becoming significant for the organizational success. The corporations in the developed countries have usually disclosed human resource information in a formal pattern in their annual report, but in the developing countries like Western Balkans, Human Resource disclosure aspect is rather new concept. The motivation for this research is an attempt to investigate the investments in HR in textile companies in Serbia as a Western Balkan country and to evaluate the relationship between company business performances and HRD. This paper recognizes the improvement of skills and knowledge of HR in textile industry as an asset for business success, according to new digital technology and competing imperative, what is the main hypothesis of the paper. For the purpose of the research data were collected by taking interviews and filling up questionnaires from 161 private, independent enterprises and entrepreneurs from the textile industry sector out of a total of 203 companies as a sample in 2019. The methods used are statistical, mathematical, descriptive linear correlation and analysis. In relation to the impact of the financial sources used by companies into HR development of their digital skills and knowledge improvement, key findings of the research showed that: 39 % believe that this investment helped them to increase their business revenues, 30% to sustain, and 31% of the total number of respondents believe that their business revenues have been reduced, in spite of human resource investments.*

*The paper contributes to enterprise finance and HR challenges adjustments in TCL industries digitalisation in the new and future member states of EU.*

**Keywords:** *Business Revenues, Digital skills, Enterprise Finance, Human resource development, ICT Technologies, SMEs, Textile Industries.*

## 1. INTRODUCTION

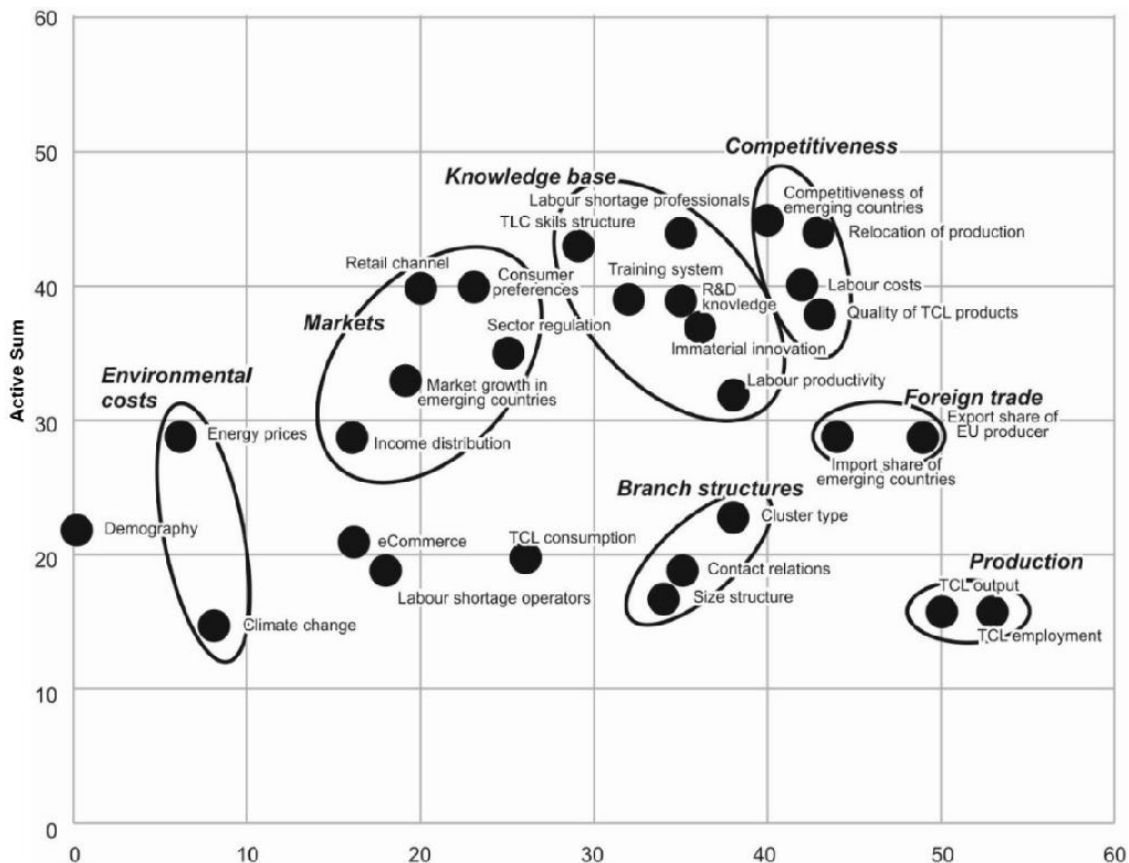
The global economic trends and the knowledge intensive economy become the key to long-term development and growth. As main drivers of change could be selected four areas which can be expected to have strong impacts on the development of the European Textile (TCL) industries:

- Global competition and rising competitiveness of Asian countries as major threat to the European TCL sector;
- Knowledge base with digital technical and intelligent textiles as the growth markets with a strong potential to substitute other materials. (The sector, however, is characterized by skills shortages due to its weak position on labour markets);
- Consumer markets, which become strongly price-sensitive, and driver which enforces global competition; the disappearance of regional fashion was caused by international brands emerge fostering;
- Environmental costs, energy prices and the costs of climate change are going to affect the world economy in a way which is not fully visible yet. Textiles and leather production have to re-assess the chemicals used for production (REACH), clothing and footwear are reorganizing their logistics systems due to rising energy prices, and all industries meet consumers who are increasingly aware of the environmental and social effects of production. The unavoidable transition from labour to capital intensive production has been fraught with developmental problems.

Labour forces in textile sector have declined significantly and import-penetration into the domestic market has been severely. However, against this background, the sector has retrenched and changed. Although reduced in numbers, the workforce has become more skilled. With the new digital technology introduction the capital ration has increased and a distinct move towards higher-cost, higher quality items is now discernable. The older markets for high-volume, low cost clothing, textiles and footwear, have been taken over by overseas slow-cost producers. In their place, domestic manufacturers have embraced newer opportunities for technical textiles, designer-wear, branded footwear and clothing, high-quality dyeing and finishing as value niche markets. In contrast, whilst not facing the same issues as yet as the other three industries, there are signs to suggest the same fate awaits the furniture industry unless it becomes increasingly proactive. Human resource policies to meet digital skill needs is the common challenge in textile continue with the further decline of employment. That makes restructuring as market demand processes in all areas – products, new digital technologies, and organization even more difficult. The human resource policy in companies is determined by low labour turnover, the importance of internal labour markets, and an ageing workforce. Particular skills shortages appear among emerging skills which are scarce due to low labour supply and strong competition among employers, in the situation of limited wages by strong cost pressure from abroad. Specialty textiles are particularly affected by this phenomenon as this sector requires highly innovative engineering staff.

*Figure following on the next page*

Figure 1: Main drivers of change in TCL



Training is at risk in highly specialized but declining industries. Students and workers also have little incentive to invest in training if they face limited labour demand and high unemployment risks. Market forces alone, therefore, lead to a downward spiral of extending skills shortages in the face of declining employment. These trends have implications for the education and training of human capital as the strategic reorientation of businesses can only be achieved on the basis of a well educated staff with the training required to create an efficient workforce, so that the implications for education and training would be even higher in the textile industry business success. Vocational training may promote the reorientation through knowledge transfer in the areas of environmental protection and crafts-related skills, as training could be strongly company based in order to achieve the transfer of practical knowledge. All this motivated the authors of the research to explore the level of understanding of SMEs from the sector about the digital challenges in human resource development from the aspect of their investments in these assets. The paper is structured in five parts: after introduction and literature review, some characteristics of the textile sector of the Western Balkan countries are described, materials and methods of the empirical research, key findings and conclusions, are given. In the paper are given also the abstract and the literature used for the research.

## 2. LITERATURE REVIEW

According to the literature-Human Resources are often recognized as: human assets [14], human resources [7], cultural capital, worth of employees [13, 19]. Theodore W. Schultz [21] in American Economic Review first used the term: human resource, and now means more often a combination of skills, experience and knowledge. Human resource can be defined also as abilities and skills of a certain group of people or an individual person that have value, including experience, knowledge, morale and attitude, corporate culture, putting together as an economic value to the organization in its behavior and development.

According to the American Association of Accountants Human Capital Accounting can be considered as a process of measuring data about human resources, identifying, and communicating to the parties interested in these results. It provides valuable information about human resource costs and values, serves to forward to decision making, and motivates decision makers to appropriate a human resource panorama [20]. Human Resource is the key element of any organization and are the foremost vehicle in achieving the development goals. Accountants (HRA) have recognized the value of human assets for at least 70 years ago and in the 1960s, Rensis Likert began the true human resource accounting research [21]. The main objective of the HRA is to facilitate the effective and efficient management of human resources, as followers of accounting theory write [16]. Reporting on human capital has received academic attention during the past decade and a half [1, 4]. Companies often are showing their expenses related to human resources in the financial statements, but are not able to present their human capital in the financial statements. Therefore, stakeholders are being deprived of getting valuable information about the human resources of their organization [10]. The human resource variables could affect the efficiency of firms in a number of ways. It includes the analysis of the conjunction between different aspects of human resources and firm performance has been examined by many authors[5] considering the resource theory, human resources in a more absolute way with the approach to strategic management focuses on costly-to-copy attributes of the firm as sources of economic rents, as the drivers of performance of the company and its competitive advantage. The resource-based approach is reaching for a theory of the firm. This theory considers that the competitive position of a firm depends on its specific and not transcript assets. The most specific asset that an enterprise has is its personnel and its productivity. With the same technology, a solid human resource team makes all the difference [2]. The reasons for embodying human resource in accounting are - that employees are a valuable resource to a firm so long as they perform services that can be quantified, and the value of a person as a resource depends on how he is engaged. The present paper is based on the resource and accounting theory, and researches the impact of firm investments in human resource on its revenue and business success.

### **3. THE TEXTILE INDUSTRY IN SOME BALKAN COUNTRIES OVERVIEW**

The textile industry of Western Balkan countries developed three main strategies to meet competitive pressure:

- The chance of a cost-oriented approach of EU industry, which used relocation to low-cost countries, including the NMS from West Balkan, as its major instrument;
- A competitive environment for outsourcing investments in textile from the developed EU countries, from Asia and Turkey too;
- An innovation-oriented approach diversifying the spectrum towards high-quality and specialty textile products; A productivity-oriented approach development based on automation and IT-based supply chain management, which helped to increase flexibility and create global sourcing systems.

These strategies contributed to the dichotomy change of skill structures: a sharp decline in the number of textile workers, and the increase of such jobs in low-cost areas as Western Balkans are. But the restructuring activities towards supply chain management and sales required more technical and business professionals and are the reason to do deeper research on investments in human resource skills and knowledge improvement in textile. TCL industries in the Western Balkan countries have been declining industries for a long time. Since 1996, TCL lost three third of its jobs within fifteen years. Compared to overall manufacturing, the decline was at a significantly higher speed [9]. In the Western Balkan region, before 2000. textile has been the great state companies' business.

Later, textiles, clothing and leather are industries with high shares of females, not only in services and administration, but also in production activities, and SMEs and entrepreneurs [18, p.23]. According to CBS (2018) Croatia has: 1,292 companies in the textile and clothing industry with 18,618 employed workers in the production of textiles and clothing; with an average gross salary of € 741 (Wage adjusted labour productivity for the textile industry is for Croatia 175.9%, while the EU 28 average is 140%, Eurostat). FRY Macedonian textile makes: 17% of the industry's GDP, 17% of total country exports, 35% of the total number of employees in the industry, where the 93% of the production are organized by the CM or CMT (Cut, Make & Trim) system for foreign markets with more than 1000 mostly medium sized and large companies in textile production. In Serbia the export of textile sector reached the value of 887 million EUR or 7.4 % of total Serbian exports (2016), 74.3% of total textile production (2016) was sold to the EU countries (12.4% in Germany). Over the last 10 years, the Serbian fashion industry has evolved from a domestic, manufacturing-based industry into a design-led sector operating in the global market [12]. Nowadays, in Croatia, Serbia and FRY Macedonia successfully operate through an international partnership company as: Benetton, Calzedonia, Golden Lady, Falke, Geox, Pompea, Real Knitting, extensively using their production facilities as secondary manufacturing sites for the production of high-quality apparel [17]. The change of occupational structures in the TCL industries reveals clear trends in the period 2000-2019: extended the number of jobs for skilled production workers and assemblers, while the share of managers, other professionals, and service and administrative workers was cut. This is the consequence of a long-lasting pattern of occupational structure that has shifted to such as the Western Balkan low-wage countries are. A high share of TCL workers in EU15 countries has a basic formal education (ISCED 1, 2) (57.6%), one third have a medium level (ISCED 3, 4), and 9.3% have a higher education (ISCED 5, 6). In contrast to the NM countries, the majority of workers have a medium level of education (81.1%), and only 13.1% have a low level, and 5.8% attained a high level. These profiles reflect the different structures of education and training systems in the EU countries, with a strong training orientation in the Balkan countries [11]. The cost of the labour per minute in the textile production (excluding transport costs) in Western Balkan countries is among the lowest in Europe and worldwide and can be considered as an advantage.

*Table 1: The cost of labor textile production in SEE region (2016)*

Region/Country	CM price	Region/Country	CM price
Western BALKANS		EUROPE	
Macedonia	0.07	Germany	0.60
Serbia	0.08	Austria	0.51
Albania	0.06-0.07	Italy (North)	0.52
Bosnia	0.08-0.09	Italy (South)	0.38
Bulgaria	0.09	Spain	0.28
Greece	0.19	Turkey	0.15

*Source: National statistics data*

#### **4. EMPIRICAL RESEARCH ON TEXTILE SMES' INVESTMENTS IN HUMAN CAPITAL DEVELOPMENT - EVIDENCE FROM SERBIA**

The subject of the empirical research for this paper is to present the views and attitudes of the representatives of the enterprises on the investments in human resource and their impact on the income and business of the textile company. The entire territory of Serbia in 2019 has been covered. The main hypothesis is:

- **Hypothesis:** *The textile enterprise investment in human resource digital skills and knowledge improvement affects the performance of its business.*

The main hypothesis have been examined by the results of the empirical research, of examining the views of the representatives of 203 companies and entrepreneurs, of which 79 % were from the textile industry. Their attitudes on three groups of factors were given: sources of funds, conditions of funding and for HR digital, mostly ICT capability improvement, and their impact on the revenues and business of the company itself. Sources of financing of the textile company (abbreviated “SF“), include the influence of the: level of bank loan funds, internal sources, and other external sources of financing as the level of funds earmarked for investments in HR digitalisation in comparison to the total investment funds in other purposes as, the settlement of legal obligations, the fix and working capital, into new products development. Conditions for financing the HR of the textile company (used abbreviation “CF“), include the level of interest rates, collateral, credit repayment period, banking procedure, the level of trust in the banking system and availability of subsidized funds with tax incentives, as well as for other sources of financing. The business performance of the company through the income (abbreviated as “BI”) includes the level of: finding clients, level of business competition, general access to financial resources and costs of textile production.

#### 4.1. Sampling

The structure of the sample consists of 203 companies of which:

- 161 are from the textile industry sector, private, independent enterprises and entrepreneurs.
- The survey of company attitudes included: 48 business owners, 31 directors, 48 managers and 53 consultants.
- The structure of the samples according to the size of firms measured by the number of employees shows that the majority of companies are small, up to 10 employees (91), from 11-49 employees (41 of them), 47 are medium-sized enterprises (from 50-249 employees). Large firms over 250 employees make 12% of the sample. The structure of the research sample corresponds to the structure of the economy where 99% in textile sector make SMEs, mostly small to 50 employees).
- According to the source of income, 79 % firms operate in the domestic market, and 21% of them are exporters.
- According to the income of surveyed companies in 2019: 76 companies had up to 100,000 €, 44 companies up to 500.000 €, 35 are with the income up to 2 million €, and 48 of the total, over that amount.
- 129 of the total number of respondents invested into the human resource development. In relation to the impact of the financial sources used by companies in the previous period (2018) for HR digitalisation development, their skills and knowledge improvement, 39 % believe that this investment helped them to increase their business revenues, 30% to go on, and 31% of the total number of respondents believe that their business revenue has been reduced, in spite of human resource investments.

#### 4.2. Tools

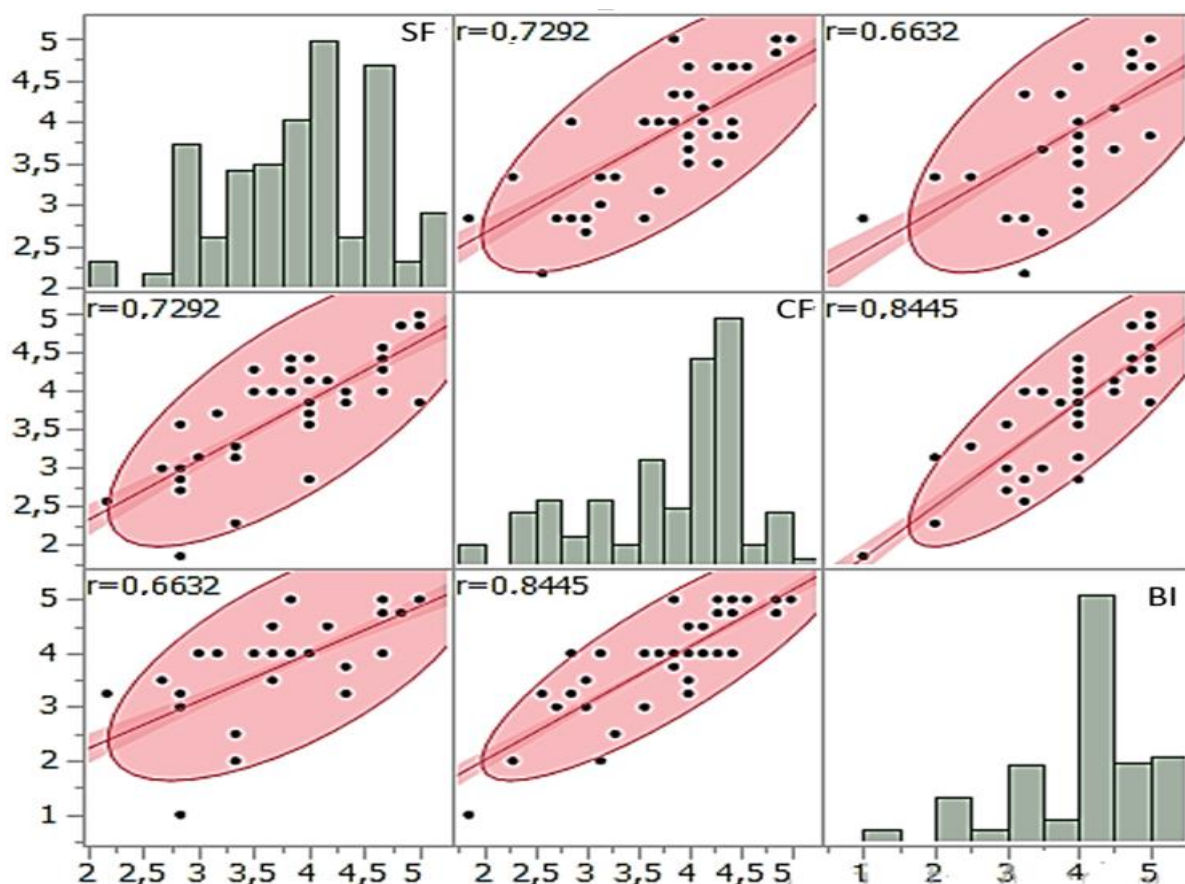
There were statistical, mathematical and data collection methods used, as well as the questionnaire technique for obtaining key research results as: descriptive statistics, Cronbach’s Alpha coefficient, and a correlation analysis that determined the interconnections between sources of financing of HR, conditions of financing and business operations of the company. Also, regression analysis, linear regression, ANOVA test, multiple linear correlation were used to show the influence of several independent variables of sources of financing of HR and conditions of financing of HR on the dependent variable, the business-income of the company.



### 4.3. Key findings

The Pearson's correlation of the attitudes of the company representatives (given in the further Figure2) present directions of all possible links between independent (sources and conditions of the financing of HR development) and dependent variable (business performance given through business income). These directions have a strong positive correlation and strong forecasting depending variables by independent ones. The findings show that the strength of the correlation between these variables are: the correlation (the connection) between the variables "SF" and "CF" is 0,7292 , what means a medium strong, with the coefficient of determination (the level of forecasting the "CF" in relation to the "SF") of 53.17%; the correlation between variables "SF" and "BI" of 0.6622, medium strong, with the coefficient of determination (the level of forecasting the "BI" in relation to the "SF") of 43.83, and the correlation between the variables "CF" and "BI" in the amount of 0.8478, is strong, with a coefficient of determination (the level of forecasting the "BI" in relation to the "CF") of 71.31%.

Figure 2: Correlation of the model



By results of the multiple correlation and regression analysis for all three variables of the formed model "SF", "CF" and "BI, the statistical significance rating of the independent variables in this research: the sources and conditions of financing of the HR digitalisation development in the company ("SF", "CF"), and the business income of the company ("BI") as dependent variable, and has confirmed by ANOVA test the main hypothesis with the  $r^2=0$ , as well as by the statistical significance which is  $<0.0001$ . In Table 2 are given contributions of independent variables, „SF“ and „CF“ to the level of „BI“ as the dependent variable. Results show that the most contributed independent variable „CF“, with 0.770774. The variance increase factor is 6.2466617, what confirms also the main hypothesis of the research.

Table 1: Coefficients for the variables „SFP“, „CF“ &amp; „BI“.

Term	Estimate	Std Error	t Ratio	Prob> t	Std Beta	VIF
Intercept	-0.276746	0.202568	-1.37	0.1734	0	.
IFP	0.1340529	0.072722	1.84	0.0668	0.101148	21355915
UFP	0.9610589	0.068418	14.05	<.0001*	0.770774	2.1355915

Nonstandard coefficients from the above table are used to compose the regression equation given below (1) and (2):

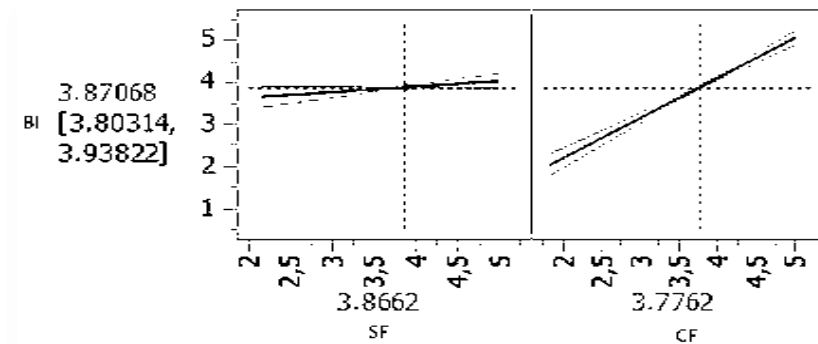
$$y = -0.276746 + 0.1340529 \cdot x_1 + 0.9610589 \cdot x_2 \quad (1)$$

or

$$BI = -0.276746 + 0.1340529 \cdot SF + 0,9610589 \cdot CF \quad (2)$$

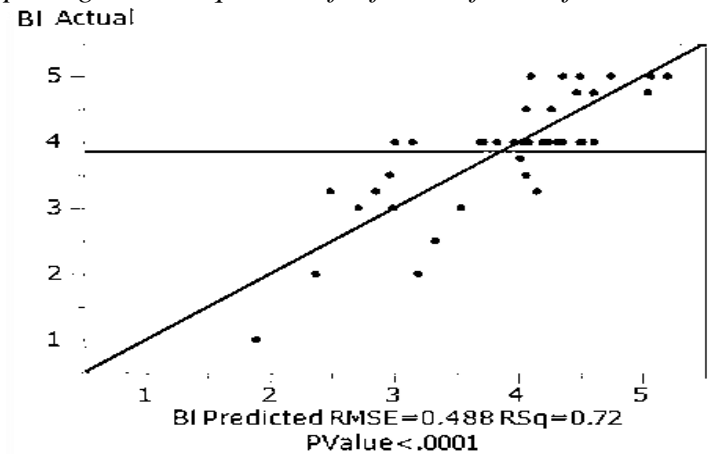
In Diagram 1 it is shown Partial diagrams of regression equations for the model: Sources of financing HR development in the company, Conditions of financing HR development in the company and Business income(performance).

Diagram 1: Partial diagram of regression equations of influence for the formed model „SF, CF &amp; BIP“



In Diagram 2 the multiple regression equation is shown.

Diagram 2: Multiple regression equation of influence for the formed model „SF, CF &amp; BIP“.



## 5. CONCLUSIONS

The paper presents the research results of the textile enterprises' investments in HR and digital skill development. The main findings support the hypothesis that these investments positively impact business performances of the firm.. For the base of sources for enterprise finance has been taken bank loans which the enterprise got in the previous years and other sources, and redirected it to the HR digital, ICT competences improvement. It can be concluded that the paper contributes to the efforts of EU for developing the knowledge base by facing the situation of an eroding training system, why is recommended to apply a strongly selective HR policy concentrated on the TCL production in Europe. This, particularly in France, Italy, Portugal, Belgium, Germany and some of the New Member States and NMS from West Balkan, which need to optimize their human resource management and pay particular attention to quality-oriented production and skills adjustment to digitalisation challenges through redirecting enterprise funds towards human capital investments in favor of reinforcing the new digital competence standards in textile industry [8]. Also, as the European Technology Platform suggested that the TCL industries in Europe need a strategy to defend the share in mass consumption markets [15], the New Member States also with NMS from the West Balkan to be better positioned in the competition with the Asian competitors. As this competition is not only driven by labour costs: flexibility and speed of production, marketing channels and logistics, high productivity of labour, organisation and machinery are also important ingredients of competitiveness and should be developed. This requires within the Western Balkan countries industrial policies to develop a strategy to safeguard low-skill workplaces. More generally, future employment and human resource policies in the time of digitalization [3], also would have to be improved through the support of good practices in restructuring, the contribution to TCL related human resource investment, improvement internal adaptability of the workforce. In that context is also important the preservation of the knowledge base of lifelong learning, setting up good HR practices and career path developments to struggle against turnover and attract newcomers in the sector, building mobility solutions within the sector instead of layoffs, and the support HR policies with an effective ageing policy and new career paths.

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## MARKETPLACE VS ONLINE SHOP

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### **ABSTRACT**

*At the dawn of the Internet development, the online shops “existed” only in their own sites, but lately the large online platforms as Marketplace have become particularly popular. The main difference between marketplace (online platforms) and online shop is following: marketplace sells goods and services to many people meanwhile in case of online shop the seller is the company that owns the shop. marketplace is the intermediary between the buyer and the seller, and receives commission (normally 10-20% of the price) as well benefits financially from advertising. In contradistinction to an online shop, marketplace does not sell anything: it provides the space for the owners of online shops. The contracts between marketplace and the owners of shops can prescribe additional deductions for marketplace. At the same time, marketplace can host not only shops, but also direct suppliers of goods. Current marketplace can provide the space for companies offering different services: one can find the right service in the right city or even neighbourhood only browsing marketplace site. The aim of the research is to compare the marketplace and online shop, basing on theoretical aspects, discover main differences and make conclusions. The tasks: to give advantages and disadvantages of marketplace based on theoretical aspects, make conclusions. Will be used the monographic method.*

**Keywords:** *Europe, marketplace, onlines hops, platform*

### **1. INTRODUCTION**

An online shop is the business card of the company’s brand, meanwhile *marketplace* is a ready toolbox, possibility to explore new markets and increase the number of customers. *Marketplace* is an online platform providing information on products and services by third parties, whose trade happens through *marketplace* operator. The classic *marketplace* structure consists of the following parts: catalogue of products; section registration and authorization of buyers and sellers; customer’s section, search and statistics management software; payment system, feedback modules, communication between the suppliers and customers; settlement of disagreements. (Breen, 2016). Fraleigh and Turman pointed out that sometimes *marketplace* is perceived as optimized online platform that ensures trade of products and services. (Fraleigh, Turman, 2010). Often the same product can be purchased from different retailers and the price might differ. (Hill, Hult, 2018). As the *marketplace* offers wide-range of suppliers and products, the assortment and availability of the products is more extensive than offered by specialized online retailers. (Hugget, 2014). Since 2014, the number of *marketplaces* on the Internet has rocketed due to the constantly increasing demand.

### **2. LITERATURE REVIEW**

Initially, in 1995, *Amazon* entered the market as online book retailer, but currently it has become the bigger platform with eight branch offices worldwide. In 1995, in the USA, the online auction site *eBay* was established. (Makkonen, Gracia, 2018). ) Formally, it is also the case of *Marketplace*, because this source gives the opportunity to individuals and legal bodies to sell their products online, the only difference from other *marketplace* sources is that the auction principle applied in *eBay* regulates the value of the products. In 1996, Hiroshi Mikitani founded *Rakuten* online shop in Japan and in 1997 he offered the retailers to create their own websites hosted by his online shop. In 1999, in China Jack Ma established *Alibaba*, the online shop that

has become the bigger as *marketplace* capitalized in 441 billion USD (data as of 4<sup>th</sup> quarter of 2018) (Summit Marketplace Showcase, 2019). Norris considered that the *Marketplace* means online marketing intermediaries offering to their customer a website service in order to distribute the information on different products and services (flights, catering, clothes and footwear, other products and services). (Norris, 2001). This method is easier for the customer, since it is not necessary to gather the information and study all offers available on the Internet, compare the prices and other relevant criteria. (Pooler, 2003). Sometimes online intermediaries support social networks as well, thus contributing to the formation of social community of service providers and their customers. According to Parsons, regardless the volume of the *marketplace*, the customers can compare the prices of products, get information regarding the delivery provided by different suppliers etc. Quite often, it is more convenient search and purchase the products in a bigger *marketplace* instead of purchasing different products from different online websites. Big websites often support all payment methods and guarantee returns in case of deficiencies of the products. (Parsons, 2020). *Marketplace* and the services work according to one of the most popular models - C2C, B2C, C2B or B2B. In the first case, individuals provide the goods or services. In B2C model, shops provide the goods, but the buyers are mostly individuals. C2B means that the individuals offer their services to the companies (like outsourcing stock exchange, for example *Upwork*). B2B works on basic B2B model – services provide the space for other trade platforms, meanwhile the platforms collaborate with the suppliers of goods and services. (Prussakov, 2008). One of the aspects to be taken into account is the possible “interflow” between C2C and B2C models within the framework of the same *Marketplace*. For instance, the *marketplace* offering dwellings for rent can work with both individuals and agencies. Besides, the private owners and register as individual merchants and provide the services of the agency. An important category consists of services attracting the investments to the projects, such as *Kickstarter*. During few next years, the range of the goods and services offered by the big websites will definitely increase. (Ryan, Jone, 2009). The advantages and disadvantages of *marketplace* are disclosed in Table 1 below.

*Table 1: Advantages and disadvantages of Marketplace*

<b>Advantages</b>	<b>Disadvantages</b>
Constant flow of target audience ensured by the popularity of the platform	High level of competition
Opportunity to extend the borders of sales	Dependence on regulations of the offered service
Lower advertising costs	Lower opportunities to communicate with the potential customers
Fast start of work	Problem to increase the loyalty through campaigns and special offers
Not necessary to create and advertise the sources	Insufficient flexibility of the large platforms

*Source: based on Makkonen, Gracia, 2018.*

The large websites benefit from selling popular products and goods, but the small online shops and services are seldom represented therein. At the same time, many small retailers have their own websites and groups in social networks, therefore it is possible to find the needed products and services when necessary. However, a fast development of new and responsive *marketplace* sources is not possible due to high requirements for this business. The launching of the top-quality *marketplace* requires considerable investments: technical solutions (servers, elaboration team) and marketing (work on partnerships and supplier networks, traffic increase etc.).

Thus, only big companies can offer high quality *marketplace* sources, and this situation is not favourable in terms of healthy competitiveness. The platform *Cross-Border Commerce Europe* has analysed the data on cross-border market participants in Europe. The total turnover of 2018 reached 9 billion euro. It is 21% of the total of cross-border commerce in Europe. The total for the cross-border commerce in Europe in 2018 reached 95 billion euro: 55% were European websites (52.25 billion euro), but 45% - retailers outside the EU. According to the initial estimations of e-trade market revenue for 2019, Europe could earn 363 billion USD and the planned growth in comparison to 2018 is 7.3%. According to experts, the European e-trade market will grow till 481 billion USD until 2022. (Harrison, 2014). The most important part of the e-trade market volume in Europe is related to three European countries, namely, the United Kingdom, Germany and France. Nevertheless, the development of Eastern Europe countries is quite sharp. Some *marketplace* examples have become widely known in Europe.

*Table 2: Most popular marketplace examples in Europe*

<b>Name</b>	<b>Country</b>	<b>Description</b>
<i>Allegro</i>	Polija	<p>It is the largest Polish marketplace and number five on the list of Europe's most visited online marketplaces. With 13 million active users, Allegro is a good opportunity for B2C brands and professional re-sellers to expand into Poland's thriving €10 billion online market.</p> <p>The only obstacle is language – Allegro operates only in Polish, so product listings and customer support have to be localized.</p> <p>Allegro describes itself as the biggest shopping mall in Poland. It has significant market share in electronics (62 %), home and garden (74 %) and fashion (46 %). Brands of all sizes are selling on Allegro. Some notable names include Superdry, Hollister and Abercrombie, to designer labels like Versace and small boutique brands. Online sales in Poland grew at the rate of 16% in 2019. This is set to continue with at 9.3% over the next four years according to Statistica. With 16 million active users, Allegro is a good opportunity for B2C brands and professional re-sellers to expand into Poland.</p>
<i>ASOS</i>	United Kingdom	<p>It is one of the largest online only fashion retailers in the world with websites in UK, Europe, USA and Australia. The company targets young sellers and having noticed the growing trend of marketplaces and selling up-and-coming designers' clothes and handpicked boutique fashion, it has opened its own marketplace.</p> <p>Asos sells over 80,000 products and there are 2,500 to 7,000 new products added every <i>week</i>. It ships to over 140 countries from fulfilment centres in the UK, US, Europe and China.</p> <p>By 2017, Asos.com was generating almost £2 billion a year in revenue and has become the leading online apparel site in the UK. Since March 2018 they also introduced their mobile app, which has 10 million downloads. The app allows users to upload images of clothing they like and receive a range of matching or similar items that the company stocks. ASOS claims that in the UK 58% of purchases happen on mobile devices.</p> <p>ASOS is one of the most successful online-only fashion retailers in the industry. Originally a UK-based company, ASOS had the highest number of users in the European Union as of August 2019. Globally, there are over 20 million active customers on asos.com, which the retailer defines as "having shopped in the last twelve months as at 31 August 2019." Since 2012, sales figures increased in every market ASOS was active in. Soaring revenues placed the retailer among the leading European brands that trade both online and brick-and-mortar. In fact, according to recent data, ASOS was the only pure-player among the top 10 fashion companies in Europe in 2019.</p>
<i>Cdiscount</i>	France	<p>Cdiscount is a French marketplace with roughly 8.6 million active customers and 19 million unique visitors per month. It sells products across 40 different categories with over €1 billion in annual sales.</p> <p>Since 2018 Cdiscount started delivering some items to Belgium, Germany, Italy and Spain, which marked the beginning of its international expansion. Growing cross-border presence of Cdiscount is the result of its 15 percent year-on-year growth in net sales.</p> <p>During the second quarter of 2018, Cdiscount customers placed 5.8 million orders for 11 million items. At the moment, the Cdiscount marketplace has 10,000 connected sellers. Discount's market share was thus increased fivefold between 2012 and 2016, from 6 percent to 31 percent and had grown up to more than 38 percent in 2019. The</p>

		biggest growth could be observed from 2014 to 2015 where it increased by nine percent. The merchant site is part of the ecommerce sites that have achieved the largest turnover in France in 2016.
<i>eMag</i>	Romania	eMag is the largest ecommerce site in Romania with over 500,000 unique customers each day. Sellers can list products in in over 1600 available categories. The turnover of the eMag marketplace, developed by Romania's largest online retailer eMag to give smaller retailers access to its online retail platform, increased by 52% in 2018 compared to 2017. The platform currently hosts 3,500 sellers and more than 1.4 million products, generating more than €100 million in revenue and over 1.9 million orders for marketplace partners. The highest sales are generated in the categories of car accessories, home & deco, children & toys, fashion and sport. The eMag marketplace covers Romania, Hungary, Bulgaria, and Poland. More than 16,000 small and medium-sized enterprises have developed their businesses through the new sales channel that reaches both the local and regional market. In 2018, 1,650 start-ups entered the market through the eMag marketplace. The company invested EUR 12 million in the marketplace over the past three years. "In 2018, eMAG customers purchased 9 million products from the retailers active on the marketplace, 68% more than last year," according to the company.
<i>Real.de (before Hitmeister)</i>	German	On real.de, online buyers can find more than 12 million products from various categories. Their slogan "Einmal hin. Alles drin" which can be translated to "Once there. Get everything" shows that the German company can be considered a competitor for Amazon and eBay on the German market.
<i>Flubit</i>	United Kingdom	Flubit is the largest UK-owned marketplace. Hosting a catalogue of over 70 million products across categories including home, garden, toys, books and electronics, it positions itself as a direct competitor to Amazon. At the moment, it has 1,500 UK and Irish sellers. In November 2017, Flubit was ranked as the #10 most valuable VC-backed eCommerce company in Europe, and #2 in the UK. In 2018, Flubit.com was acquired by the prominent blockchain technology group MonetaryUnit. The decision, at the time of the deal, would reportedly make Flubit.com the world's largest shopping marketplace dedicated to the acceptance of cryptocurrencies.
<i>Fruugo</i>	United Kingdom	Fruugo is a U.K.-based marketplace available in 32 countries and has more than 25 million active users. Sellers can register once to sell across all markets available in the portfolio. The site supports 22 currencies and 17 languages. Fruugo marketplace operates with hundreds of retailers on a no-sale, no-fee basis, and offers them translation, customer service, marketing and foreign exchange support, so the retailer only needs to fulfil the order. Compared to its European competitors, Fruugo is a relatively young marketplace, but it is expecting 200% growth in the next few years.
<i>Mobile.de</i>	German	Mobile. de is a German marketplace for selling vehicles to businesses and consumers. The site has customers from throughout Europe and is the biggest automotive marketplace in Germany. Its platform allows buying and selling used and new cars, motorcycles, and motorhomes and caravans, as well as trucks, and commercial and utility vehicles. The company's platform also enables users to search dealers, as well as find financing and insurance deals. The company was founded in 1996 and is based in Kleinmachnow, Germany, but since 2004 it operates as a subsidiary of eBay Inc.
<i>OnBuy</i>	United Kingdom	OnBuy is a B2C online marketplace where third-party business sellers can list new, used or refurbished products and buyers can browse thousands of categories, compare and securely purchase with PayPal Buyer Protection. With thousands of sellers and over 10 million products, buyers can shop from multiple sellers in a single transaction with a simple, secure checkout solution free from many online fraud risks. Thanks to its reasonable selling fees and immediate payment by PayPal, sellers will enjoy risk-free selling and access to millions of buyers with no competition from OnBuy. The marketplace was launched in 2016 and is experiencing meteoric growth; ready to launch internationally, with an aggressive growth plan targeting more than 140 countries over the next 18 months. OnBuy growth has been impressive, fast and is now starting to accelerate exponentially from their modest beginnings reporting hitting £12m GMV run rate with expectations of growing this to £150m GMV over the next three years by 2022. Latest OnBuy growth figures released by the marketplace reveal 10.5 times revenue growth between May 2018 and May 2019 with year-to-date sales 13 times higher in April 2019.



		All metrics are on the rise with a 600% OnBuy growth in users year-on-year in April 2019, 16m products listed on the site from 3,000 active sellers. OnBuy are now reaching 1m+ monthly users with an average of 24 seller signups to the platform each day.
<i>OTTO</i>	German	It is the second biggest online retail destination in Germany and claims to be the biggest online retailer there for fashion and lifestyle products. It originally started as an offline brand, but now 90% of its goods are sold online and it also has a marketplace, on which it sells goods itself and allows third party sellers. The company has 9 million active customers and reaches 45% of all German households. For marketplace sellers, OTTO represents the biggest ecommerce opportunity in Germany after Amazon.
<i>PriceMinister</i>	France	It was founded in 2001 and is a leading French marketplace with 22 million members and 9 million visitors per month. This is the equivalent of one third of all internet users in France. In 2010, it was bought by Rakuten, and has been growing steadily since then. Now it operates in 20 countries and hosts an average of more than 30,000 transactions per day, which makes it the second most visited e-commerce platform in France (behind Amazon). PriceMinister has 11 million unique visitors per month, 130 million products listed and 5,000 active sellers.
<i>Zalando</i>	German	It is a German marketplace that has expanded to multiple European markets. It's particularly prominent in Germany, where they boast 95% brand recognition amongst adult shoppers but it has also been expanding into other countries too in recent years and opened fulfilment centres in Sweden and Belgium in 2017. The latest figures say that they have 20 million active buyers and a 7.4% share of the Western Europe fashion market that totals \$42 billion. Zalando has more than 22 million customers and sells over 250,000 products from 2,000 merchant brands. The Berlin-based online fashion retailer had 31 million customers who have placed an order through Zalando's website in the last twelve months running up to December 31, 2019. Since the first quarter of the year, Zalando increased its base by adding almost three million active customers. Similarly, average visits to Zalando's website have shown a dramatic rise since the last quarter of 2018. While throughout most of 2018 Zalando's website visitor numbers fared around 700 million, between September and December 2018, Zalando's online traffic reached 960 million. This was only slightly lower in the following quarter, but still well over 900 million. In the fashion segment, Zalando figures as the most popular online store among German consumers. In addition to the DACH region, Germany's beloved e-retailer is also active in 17 different European countries. From these operations, Zalando generated ever-growing annual revenue since its foundation in 2008.

*Source: based on Dawson, 2019; Ecommerce in Europe, 2019; E-commerce revenues analytics, 2019; Expert tips to increase customer base on Fruugo 2019; List of Top 65 Marketplaces Across the Globe in 2020; Matt 2017; Number of active customers\* of ASOS as of August 2019, by region, 2019; Number of active customers on the Cdiscount.com site from 2012 to 2019, 2019; Otto marketplace, 2019; 12 leading marketplaces in Europe, 2020; Privacy Notice, 2020; What are the biggest online marketplaces in the world? 2019.*

The growth of the *marketplace* depends on, firstly, the expected development of the most popular cross-border *marketplaces* in the EU market. About 50% of the turnover consists of sales from the third parties. Further growth of this part is forecasted. Secondly, the local EU *marketplaces* will look for growth opportunities through access to other markets. Thirdly, new market niches will form, for instance, products for musicians and artists, artisans and collectors, interior designers, home design accessories and furniture, multimedia products, crafts etc. At the same time, we hear the critics regarding the launching of the *marketplace* in fields where the local service providers are not able to compete with foreign markets. Besides, the critics say that law and regulations for *marketplaces* are not duly elaborated, therefore there is the incompliance between the *marketplace* and the responsibility of third parties. Lately, the issues of violation of consumer rights in online platforms and *marketplaces* are criticized. However, the *marketplace* business model is not a new solution in the world. It is a well-known practice that has proved to be efficient.

Many well-known companies in service industry (*DogVacay*, *Booking.com*), *Airbnb*, online trade (*AliExpres*), information (*HeadHunter*) and investments (*CircleUp*, *Kickstarter*) prove the profitability and efficiency of *Marketplace*.

### 3. CONCLUSION

- *Marketplace* help the sellers to achieve the success in shorter time than traditional shops. It is not necessary to run an e-sjp, invest resources and effort in attracting the customers, because the platform guarantees an interrupted access to customer flow. This could be a good stimulus for the representatives of small and medium companies to develop their own businesses.
- *Marketplace* platform offers not only the opportunity of e-shops, but also provides marketing support, well-developed infrastructure of management of payments and deliveries, which ensures positive shopping experience to the customers.
- There are many possibilities of development, transforming the local level into global ad apply it in any field – handmade item, rent of dwellings or cars, hobbies etc.

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## DIGITIZATION IN RECRUITMENT

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### ABSTRACT

*The labor market of the Slovak Republic has changed dramatically. To remain competitive, organizations have to respond adequately. The paper addresses the current issue of new recruitment techniques. Traditional recruitment methods are no longer enough, new recruitment techniques are needed. The paper attempts to identify practices in the process of employees recruitment with a closer look at the tools in the process and recruitment process optimization. The paper contains a literature review, a null and an alternative hypothesis and a description of the methods used in the practical part, results, recommendations and conclusions. The study is focused on detecting the presence of social media in the recruitment process. The study also tests the hypothesis whether there is dependence between the number of regular LinkedIn users and job categories. In the paper, both qualitative and quantitative research was carried out. The questionnaire survey took place in February 2019, the study uses a sample of 85 respondents. A semi-structured interview was conducted with the head of Human Resources department. Results confirmed the relevance of social media in the recruitment process. Using the chi-square test, a statistically significant relationship was confirmed between the LinkedIn active use and job categories. The practical value of the obtained results is the knowledge on how to make the recruitment process more effective in the current labor market.*

**Keywords:** *job categories, LinkedIn, organization, recruitment process, social media*

### 1. INTRODUCTION

Traditional recruitment methods, such as print advertising, job postings on bulletin boards, recruitment flyers or waiting for applicants to come, are no longer enough to attract qualified people. New recruitment techniques are needed to attract talented jobseekers who, once they are hired, need to be provided with the right benefits. Organizations are competing for new employees while retaining the existing ones. The Internet era has had a significant impact on the recruiting industry. In order to appeal to the millennium generation, employers must have up-to-date recruitment tools in place. LinkedIn is chiefly used for professional networking, including employers posting job openings and job seekers posing their curricula vitae. The network's mission is to connect the world's professionals to make their careers more productive and successful. LinkedIn is mostly used for job searching, sourcing and hiring candidates, sharing knowledge, meeting and connecting with professional contacts, etc.

### 2. LITERATURE REVIEW

HR management has undergone significant changes since its birth in 1900. HR managers or HR departments have to be able not only to manage, but comply with legal regulation in the HR management (Nosková, Peráček, 2019). The human resource department of every organization plays a key role in its development, HR departments play a key role in recruiting staff (Lorincová, 2018; Anyakoha, 2019). Concerning recruitment, Haňdiak (2016) highlights the principle of finding the right person for the right job.

Recruitment is an HR-related activity designed to attract a sufficient number of candidates that would be a good match for vacancies, while meeting the deadlines and keeping the costs at a reasonable level. Tavares (2020) finds that internally transferred workers, particularly skilled workers hired at high-rank jobs play an important role in improving the survival of new establishments. Guðmundsdóttir and Eðvarðsdóttir (2017) argue, that if an unsuitable employee is chosen, the effects can be poor performance, premature return from the assignment, anxiety and other emotional issues. Bebenroth and Berengueres (2020) support previous research that new hires started with a 27% higher job satisfaction compared to the non-new-employees. In addition, recruitment deals with identifying the most suitable labor resources, offering vacancies, communicating with and obtaining relevant information about applicants and providing for organizational and administrative activities (Koubek, 2015). Recruitment is affected by internal and external factors. Internal factors encompass the nature of the job, the position of the job in the organizational functional hierarchy, duties and responsibilities, place of job and working conditions. Internal aspects to recruitment may be linked to organizations, thus the reputation, remuneration levels, learning and development options, interpersonal relations, and the like (Kocianová, 2010). External factors include business cycles, technological, social, political, legal and demographic aspects. There are political decisions, flexibility of norms belonging to the labor jurisdiction, demographic swings in population employee relations etc. (Vojtovič, 2013). It has become significantly more complicated for employers to arrange an optimal manufacturing process. (Olšovská et al., 2015; Bencsik et al. 2019 ). The choice of recruitment techniques depends on a number of factors. Organizations can advertise job openings in the media, post notices and flyers on bulletin boards, work with educational institutions or offices of labor, social affairs and family. Applicants can approach organizations themselves, while organizations can utilize employee referral programs or hire the services of recruitment agencies. The Internet era has had a significant impact on the recruiting industry. Employers can post an unlimited number of vacancies on various job websites. It is also possible to find and apply for a job directly on company websites (Nachtmannová, 2011). Experts say that organizations using the Internet and recent technology for recruiting will survive the fierce competition. In order to appeal to the millennium generation, employers must have up-to-date recruitment tools in place. Young people probably do not know any organization that cannot be searched online (Slavić et al., 2017). E-recruitment or online recruitment refer to the use of web-based tools to advertise vacancies (Armstrong, 2015). Job seekers can apply online and communicate through an e-mail or telephone. Missing information from CVs can be checked and job candidates can be screened online. Social media have also become a great resource for recruiting. Compared to traditional recruitment, online recruitment is faster, cheaper and more effective in finding better quality candidates. Older job seekers, however, do not research and apply for jobs online. In addition, social network sites, such as LinkedIn, Facebook or Twitter, have been used as an e-recruitment tool. They are popular with both professional recruiters and job seekers. Recently, recruiters have focused on passive job seekers, i.e. those who are currently employed and only passively looking for a job (Horváthová, 2016). Current labor market developments in the Slovak Republic are characterized by the contradiction between the qualification requirements of the demand for labor and the qualification structure of the labor supply (Koišová, et al. 2018). This situation in the Slovak Republic requires organizations to respond appropriately. Organizations are competing for new employees while retaining the existing ones. Although each enterprise uses its own system of remuneration, it is always an important element of motivations and makes the company more attractive for potential job applicants (Mura, et al. 2019). Traditional recruitment methods are no longer enough, new recruitment techniques are needed. New model examines four micro-processes of advice seeking: reciprocity, preferential attachment, transitivity and legacy-firm tie preferences (Mirc, Parker, 2019).

There is a relatively large group of unemployed youth in the labor market, who due to various objective conditions (e.g. lack of education) or subjective conditions (generation Y culture) do not want to work and participate in economic activity (Mura et al., 2016).

### 3. METHODS

The main objective of the paper is to identify practices in the process of employees recruitment with a closer look at the tools are being used by Hella Innenleuchten-Systeme Bratislava, L.L.C. in the process and recruitment process optimization in the current labor market. First of all, we assembled factual material from primary and secondary sources. The primary source was the research project VEGA No. 1/0430/18 “The impact of Industry 4.0 on job structure changes” funded by the Ministry of Education, Science, Research and Sport of the Slovak Republic and the scientific literature was the secondary source. Null and alternative hypotheses were formulated and a chi-square test was used to test their validity. In the paper, the dependence of regular use of LinkedIn on the job category was examined. For this purpose, the following two questionnaire responses, such as 1) Which category best describes your job? 2) What social networks do you use on a regular basis?, were evaluated. Survio filtering was utilized to match responses to the following three job categories: such as white-collar workers (managerial employees), white-collar workers (non-managerial employees), and blue-collar workers. The research object was Hella Inneleuchten-Systeme Bratislava, L.L.C., which is a local part of a multinational concern. The questionnaire survey took place from 15 February 2019 to 25 February 2019. The sample consisted of 85 respondents out of the total of 248 salaried employees. The total number of employees asked to fill in the questionnaire was 109, thus the return rate was of 78%. Jobs were broken down into three categories as recruitment techniques vary by job category, and the Human Resources department uses the system of distinguishing between white-collar employees and blue-collar employees. White collar employees are those working in offices, performing work that requires rather mental than physical effort. Blue-collar workers, on the other hand, do work needing strength or physical skill rather than office work (dictionary.cambridge.org). The survey was to find differences in recruitment process for representatives for each of the three job categories:

- a) assembly workers – representatives of blue-collar employees, employees who are directly involved in the production process and who are paid hourly wages,
- b) material planners - representatives of white-collar non-managerial employees, who are not involved in the production process,
- c) maintenance managers - representatives of white-collar managerial employees.

The specific selection of representative jobs was influenced by the need to fill vacancies in the company. A semi-structured interview was conducted with the head of HR department in Hella Innenleuchten-Systeme Bratislava, L.L.C.. The interview questions intended to identify changes in recruitment processes in terms of the three job categories as well as the Slovak labor market situation. Null and alternative hypothesis were formulated:

- $H_0$ : There is no dependence between the number of regular LinkedIn users and job categories.
- $H_1$ : There is a dependence between the number of regular LinkedIn users and job categories.

Job categories are independent variables, regular, non-regular and non-LinkedIn users are dependent variables. The level of significance was selected  $\alpha=5.00\%$ ,  $\rho \leq 5.991 \rightarrow H_0$  is not rejected;  $\rho > 5.991 \rightarrow H_0$  is rejected.

The following formula was used to calculate expected frequencies  $E$ :

$E$  value is calculated by multiplying the row total by the column total, then dividing by the grand total.

Next, chi-square value was calculated, using the formula

$$x^2 = \sum_{j=1}^n \frac{(O_i - E_i)^2}{E_i}$$

Degrees of freedom  $dF$  were determined using the Table 2:

$$dF = (\text{number of columns} - 1) \times (\text{number of cells} - 1)$$

$$dF = (3-1) \times (2-1) = 2$$

Then, tabular values for the respective chi-square were determined. Next, the decision to reject the null hypothesis or not to reject the null hypothesis was made.

#### 4. RESULTS

Observed and expected frequencies are given in Table 1 below. Observed frequencies were filtered from questionnaire responses on Survio.com website.

*Table 1: LinkedIn use – Observed frequencies*

	<b>Regular users</b>	<b>Non-regular users</b> <b>Non-users</b>	$\Sigma$
White-collar managerial employees	6	9	15
White-collar non-managerial employees	12	22	34
Blue-collar employees	2	34	36
$\Sigma$	20	65	85

*Source: Own processing (February, 2019)*

Fifteen (18%) managerial-white collar employees, thirty-four (40%) white-collar non-managerial employees and thirty-six (42%) blue collar employees took part in the survey (Table 1).

The following formula was used to calculate expected frequencies  $E$ :

*Table 2: LinkedIn use - Expected frequencies*

	<b>Regular users</b>	<b>Non-regular users</b> <b>Non-users</b>
White-collar managerial employees	3,5294	11,4706
White-collar non-managerial employees	8,0000	26,0000
Blue-collar employees	8,4706	27,5294

*Source: Own processing (February, 2019)*

Next, chi-square value was calculated, using the formula

$$\chi^2 = \frac{(6-3,5294)^2}{3,5294} + \frac{(9-11,4706)^2}{11,4706} + \frac{(12-8)^2}{8} + \frac{(22-26)^2}{26} + \frac{(2-8,4706)^2}{8,4706} + \frac{(34-27,5294)^2}{27,5294} = 11,3406$$

Degrees of freedom  $dF$  were determined using the Table 2. Then, tabular values for the respective chi-square were determined (Table 3).

$$\chi_{0,95}^2 [(3-1) \times (2-1)] = 5,991$$

Table 3: Tabular chi-square values

Degrees of freedom	$\alpha$									
	0.995	0.990	0.975	0.950	0.900	0.100	0.050	0.025	0.010	0.005
-	-	-	0.001	0.004	0.016	2.706	3.841	5.024	6.635	7.879

Source: Own processing according to <http://www.z-table.com/chi-square-table.html>

As the calculated value  $\chi^2$  (11.3406) is higher than the tabular value  $\chi^2$  (5.991), the null hypothesis is rejected at the level of significance  $\alpha=5.00\%$ . Thus, there is a dependence between the LinkedIn active use and job categories.

**Note:** The calculated value  $\chi^2$  (11.3406) is higher than the tabular value  $\chi^2$  (9.210) even at the level of significance  $\alpha=1.00\%$ . Therefore, the rejection of the null hypothesis and the acceptance of the alternative hypothesis is correct at more than 99%.

## 5. DISCUSSION

Job applications have long been a staple of the hiring process and online applications have rapidly become the new norm (Hartwell, Orr, Edwards, 2020). In terms of e-recruitment, Profesia job portal is widely used. In spite of having currently being the most popular job portal in Slovakia, it is advisable to post jobs on other job posting sites due to different types of job portal users who are alerted by an e-mail after a job offer suitable for them is posted. Some companies place job ads on sites such as bazos.sk or bazar.sk that were primarily intended to advertise consumer goods. If not topped, advertising on these sites is free of charge. Of social networks, only LinkedIn is used through the HR manager profile to recruit employees. LinkedIn is a social network designed to search for highly qualified workers, which was also supported by the finding that there is a statistically proven dependence between its regular use and job categories. Hella Innenleuchten-Systeme Bratislava, L.L.C. has its profile on LinkedIn which raises awareness of the company and builds the employer brand. Three out of four employees were familiar with the company activities when they became interested in its job ads. Hella Innenleuchten-Systeme Bratislava, L.L.C. provides the latest information about production, achievements, solutions, new plants, etc. LinkedIn does not, however, show the profiles of the plants based in Slovakia. The profiles could be used to post situations vacant for Slovak plants, raise awareness of the company and help build employer brand. All these activities are, unfortunately, performed by the company top management. It is recommendation, although the results of one study showed that higher levels of Work Passion were not related to using different recruiting sources (David, 2019). In 2015, Amazon started experimenting with ads on Tinder dating application to search for job candidates (Franceschi-Bicchierai, 2015).



In 2016, Goldman Sachs used the Spotify music streaming app to recruit millennials. Without paying for a Premium account, Spotify users must see/listen to ads if they want to continue listening to music. In the same year, the company started using Snapchat social network (Crowe, 2016). It is believed that the above examples stirred much more controversy at their time than the recommendations of creating business profiles on social networks. Running ads on social media would not be costly. Concerning the recommendations, Human Resource specialist should be in charge of the company profile administration. Currently, it is very popular to make short videos to raise the awareness of people about both existing and newly established companies. It is also possible to run job advertisements on Youtube as they allow good targeting and cost effectivity. Already analysis of Epstein and Singh (2003) has shown the internet should not be considered as the end all to the recruiting process. It is important for HR to focus upon meeting the candidate experience across all stages of recruitment cycle as a catalyst to boost its employer brand (Gupta, Mohan, 2019). By analysing the interview and statistically evaluating one of the questions, shortages in recruitment in Hella Innenleuchten-Systeme Bratislava, L.L.C. were identified and proposals were put forward. Bearing in mind the current situation in the labor market, such recruitment tools were proposed that would gain a competitive advantage for the company. Digitization is used to a small extent by the company. Therefore, a digital recruitment strategy should be developed. Bain & Company's survey found that 87% of HR executives and managers in the USA, UK and Germany believe that digital will fundamentally change HR (Vorlová, 2019). There are several applications that can simplify the recruitment process. Some of them are integrated in the SAP software and in a few clicks one can run the selection process, approve job description, salary ranges, fringe benefits and job offer.

## 6. CONCLUSION

In this paper, it has been shown the influence of the presence of social media in the recruitment process. Based on the research findings, a conclusion has been set that vacancies should be advertised on sites with the highest concentration of the target groups, such as LinkedIn on which for example generations Y and Z spend hours on a daily basis. It follows from our research that as much as 87% of company employees are regular users of at least one social network. Despite this fact, Hella Innenleuchten-Systeme Bratislava, L.L.C. does not recruit through social media, except for LinkedIn which is used only occasionally by the HR manager. Only each 17th employee learnt about his/her job through social network. It is proposed to create a company profile on LinkedIn not only for Hella Innenleuchten-Systeme Bratislava, L.L.C., but also for all the plants based in Slovakia. These profiles should post job offers in job-search related groups on LinkedIn as well as the company profile notice board. Results confirmed relevance of social media in recruitment process. Using the chi-square test, a statistically significant relationship was confirmed between the LinkedIn active use and job categories. It is important to keep in mind that it is just one tool and should be used in combination with an overall recruiting strategy. Most of all, it is important to realize that the internet is here to stay. In order to stay competitive, organizations need to stay abreast of recruiting trends and strategies their overall recruiting efforts.

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# INFLUENCER IMPACT ON ENGAGEMENT, EXPECTED VALUE, AND PURCHASE INTENTION: A STUDY AMONG CROATIAN CUSTOMERS

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## ABSTRACT

*This paper aims to investigate A) the impact of influencers on followers' brand engagement in self-concept, expected brand value, and intent to purchase, B) the impact of brand engagement in self-concept on expected brand value and intent to purchase, and C) the impact of followers' expected brand value on intent to purchase. Based on this, a conceptual research model was developed, and hypotheses were formed, which were tested using the software package SPSS AMOS 26 by the structural equation modelling method. The research was conducted through the social network Facebook, and 488 correctly completed survey questionnaires were collected. The empirical research results show a positive impact of influencers on the followers' brand engagement in self-concept, the brand's expected value, and the intent to purchase. On the other hand, brand engagement in self-concept has no impact on the brand's followers' expected value. Also, followers' brand engagement in the brand's self-concept and expected value does not affect the followers' intention to purchase. In addition to gaining new insights into customer behavior concerning influencing their purchasing decisions, the results will contribute to marketing and sales professionals in shaping customer performance strategies.*

**Keywords:** *influencers, followers, brand, promotion, influence marketing expected value*

## 1. INTRODUCTION

Active and regular use of social networks and websites has made them indispensable sources of information and content (Lou & Yuan, 2019; Shiau et al., 2018). Thus, attractive platforms on which companies can advertise and promote their marketing activities. (Alalwan et al., 2017); (Dwivedi et al., 2015). As Childers et al. (2018), among all available social media marketing activities, companies are increasingly turning to digital influencers to advertise their brands because influencers are the ones who connect the target audience with product brands while maintaining direct communication with their followers. According to Abidin (2016), influencers are non-traditional celebrities, known only to a small group of people, and Djafarova & Rushworth (2017) further suggest that influencers are increasingly considered more powerful than traditional celebrities in the internet context because they are perceived as more credible and accessible. Childers et al. (2018) and Lou & Yuan (2019) point out that some companies believe that influencers have the power to convince consumers to buy supported brands and therefore invest a lot in influential marketing.

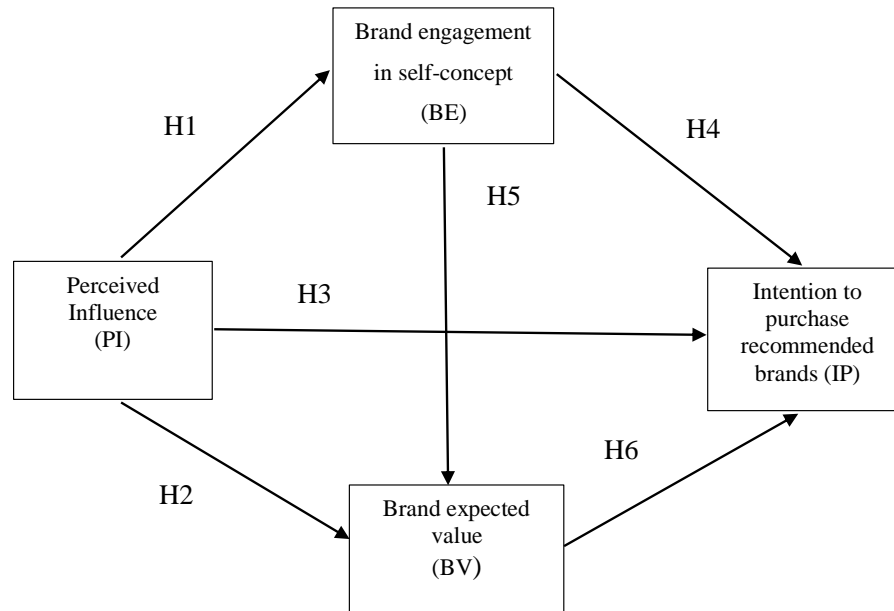
Despite such companies, the return on investment in influencers is still in question, so companies still rely more on intuition and trial and error when making decisions about marketing activities on social networks, analyze Ananda et al. (2016). Given the need to expand research and discuss the potential power of digital influencers, and modeled on research conducted by Jiménez-Castillo & Sánchez-Fernández in 2019, this paper develops a model that determines the power that digital influencers have on their followers in the context population of the Republic of Croatia, explicitly referring to Croatian consumers. The model examines whether the influence of digital influencers on their own followers can generate a response to what followers think about the product brand presented, specifically, the response related to associating followers with the brand, the expected value of the brand, and the intention to purchase the recommended brands. The results of this research will significantly contribute to the development of knowledge in the field of influential marketing. Ultimately, the information will be obtained on what are the elements that can influence the formation of attitudes and opinions of potential customers within the marketing, closely related to digital influencers. Also, the conditions necessary for a better and better prediction of consumer behavior during the purchase will be provided. The data obtained will undoubtedly be helpful to companies that include influencers in their marketing strategy to increase the value of their own business. The work consists of five parts. The paper begins with a short introduction, followed by a review of the literature, development of a conceptual model, and the formation of hypotheses. Furthermore, the methodology and analysis and interpretation of the obtained results are presented. Finally, there is a discussion, contribution, and limitations of the conducted research and recommendations for further research.

## **2. LITERATURE OVERVIEW AND HYPOTHESES DEVELOPMENT**

Various studies have been conducted on the topic of brand communication through digital influencers (De Veirman et al., 2017; Djafarova & Rushworth, 2017); however, there is a need for even more research on the impact of digital influencers on followers. Several papers to date have found that the power of influencers helps explain how individual attitudes and behaviors of potential consumers are formed and developed (Kapitan & Silvera, 2016; Lui et al. 2015; Magno, 2017). However, according to the authors Djafarova & Rushworth (2017) and the authors Romero et al. (2011) in the literature, there are even doubts about the actual impact of digital influencers, given some evidence that greater popularity does not necessarily imply a more significant impact on followers. Also, in their research, Uzunoğlu & Kip (2014) show the existence of difficulties in directly measuring the influence of influencers on brand perception and the behavior of potential consumers. According to Shiau et al. (2018), to address these issues, it seems interesting to examine the influencers' impact using self-reported measurements rather than visible indicators and, accordingly, to determine whether influencers influence the perception and behavior of their followers towards selected product brands. According to research conducted by Jiménez-Castillo & Sánchez-Fernández (2019), the influencers' impact may predict followers' association with the brand. Brand association is usually defined as the individuals' tendency to consider brands as part of their self-concept, more specifically as part of how an individual sees himself, point out Spratt et al. (2009). Jiménez-Castillo & Sánchez-Fernández (2019) point out that users with a mental predisposition for strong dependence on influencers could be expected to be more inclined to integrate information on recommended brands and develop greater brand affiliation and assume that the impact of influencers could further explain both the expected value of the recommended brands and their intention to purchase. The same authors theoretically and empirically considered the impact of influencers, brand association, expected brand value, and purchase intent as elements that positively affect customer behavior. They also explored the interconnectedness of these elements. Therefore, such elements were set in this research in order to examine the situation on this issue in Croatia.

Based on previous research, a conceptual research model has been created to measure A) the impact of influencers on followers' brand engagement in self-concept, expected brand value, and intent to purchase, B) the impact of brand engagement in self-concept on expected brand value and intent to purchase, and C) the impact of followers expected brand value on intent to purchase (Figure 1).

Figure 1: Conceptual model



Source: The authors

Based on the conceptual model, hypotheses were formed that will be tested by conducting empirical research. In this case, six hypotheses were formed, the truth of which is tested during the research.

### 2.1. Impact of influencers on customer purchase buying behavior

The fact is that individuals develop their consumer patterns of attitudes and behaviors in part as a result of their interactions with friends or peers and as a result of learning by the mass media, point out Keaveney & Parthasarathy (2001) and Litvin et al. (2008) in their research. Building on this, Abidin (2015) explains in her paper that the relationship between influencers' impact and connecting individuals with a brand is of particular interest in the online environment, primarily because of a close connection between followers and influencers has been observed. Accordingly, Kapitan and Silvera (2016) conclude that such a connection allows, ultimately, to establish identification with the source of the messages, i.e., with the influencer. Based on previous research, hypothesis H1 was formed.

**H1:** *There is a positive impact of influencers to brand engagement in self-concept.*

According to Zeithaml et al. (1993), other individuals' opinions, decisions, and behaviors help to form expected value. In this direction, Gruen et al. (2006) state in their research that eWOM or "electronic word-of-mouth" can affect the customer's overall expected product value in a digital environment. For example, research by Al-Debei and Al-Lozi (2014) and Kim and Han (2009) demonstrates evidence that the impact that individuals receive from different sources of information creates a positive and significant effect on the formation of expected product value or services. Hypothesis H2 was formed following previous research.

**H2:** *There is a positive impact of influencers on forming the expected value of the brand.*

Authors Bao & Chang (2014) and authors Kim & Han (2009) in their research show that the influence of members on social networks and the influence from other external sources have a significant effect on consumer behavior in terms of increasing the intention to buy recommended brands. Studies by Sweeney et al. (2014) and author Wu & Lee (2012) also substantiated the influence of digital influencers in terms of purchase intent. Based on the findings from previous research, hypothesis H3 was formed.

**H3:** *There is a positive impact of influencers on the followers' intention to purchase recommended brands.*

## **2.2. Follower brand engagement in self-concept**

In their research, France et al. (2016) provide information that the emotional commitment and connection of a highly engaged individual can influence his behavior with the intention of purchasing a recommended brand. According to Hollebeek et al. (2014), previous studies empirically prove that associating an individual with a brand is related to an individual's intention to start using that same brand. Also, Hollebeek et al. (2014) state customer behavior's intent as a consequence of brand association. Furthermore, Sprott et al. (2009) consider that a more significant association of followers with a brand is related to the intention to purchase that same brand. Based on previous research, hypothesis H4 was formed.

**H4:** *There is a positive impact of brand engagement in self-concept with followers' intent to purchase.*

Furthermore, Sprott et al. (2009) identified that when a consumer develops a psychological state of passion for a recommended brand with which they associate and even creates a tendency to include important brands in self-perception, they are expected to perceive greater brand value. Thus, the relationship between interaction and dependence established with digital influencers drives the process of value creation in the digital environment, emphasize del Águila-Obra et al. (2007) in his research. Previous studies have also empirically proven the persistence of the link between associating a follower with a brand and the follower's expected brand value (France et al., 2016; Hollebeek 2013). Based on previous research, hypothesis H5 was formed.

**H5:** *There is a positive impact on follower brand engagement in self-concept on the follower brand expected value.*

## **2.3. Expected brand value**

It is expected that when companies select digital influencers for cooperation, they do so by selecting those influencers who could potentially offer sufficient value to the target audience of the brand. They do this with the expectation that influencers will direct their followers to search for the recommended brand, and ultimately encourage them to buy and continue to use the recommended brand, Uzunoğlu & Kip (2014) note. Mencarelli & Lombart (2017) point out that the expected value of a brand, which future consumers have in mind, can be considered a reliable alternative variable to measure consumer satisfaction, and can also be an indicator of consumer loyalty. Likewise, there is a broad consensus in the literature that suggests that a brand's expected value is one of the leading indicators of purchase intent (Gallarza et al., 2017; Leroi-Werelds et al., 2014). Wu et al. (2014) even empirically confirmed the assumption that increasing the expected value of a brand leads to an increase in the intent to purchase that same brand online.

Taking into account previous research, hypothesis H6 was formed.

*H6: There is a positive effect of follower brand expected value on the purchase intention.*

### 3. RESEARCH METHODOLOGY

#### 3.1. Scale development

This paper aims to investigate A) the impact of influencers on followers' brand engagement in self-concept, expected brand value, and intent to purchase, B) the impact of brand engagement in self-concept on expected brand value and intent to purchase, and C) the impact of followers expected brand value on intent to purchase. In measuring the degree of agreement or disagreement with the statements stated in the measuring instrument, a five-point Likert scale was used (1-strongly disagree, 5-strongly agree). Tables 1 and 2 show the measuring scale used and the sources.

*Table 1: Sources – measuring scales*

Construct	Source	Number of items
Perceived Influence (PI)	Jiménez-Castillo & Sánchez-Fernández (2019)	3
Brand engagement in self-concept (BE)	Jiménez-Castillo & Sánchez-Fernández (2019)	4
Brand expected value (BV)	Jiménez-Castillo & Sánchez-Fernández (2019)	3
Intention to purchase recommended brands (IP)	Jiménez-Castillo & Sánchez-Fernández (2019)	3

*Source: The authors*

*Table 2: Original measurement items*

Construct	Measurement items	
Perceived Influence	PI1	My perceptions often change when I receive information from the influencers that I follow.
	PI2	I value the opinion of the influencers that I follow as if they were someone close whom I trust.
	PI3	The influencers that I follow suggest helpful products or brands to me.
Brand engagement in self-concept	BE1	I often feel a personal connection between the brands suggested by the influencers that I follow and myself.
	BE2	Part of me is defined by the brands suggested by the influencers that I follow.
	BE3	I feel as if I have a close personal connection with the brands suggested by the influencers that I follow.
	BE4	There are links between the brands suggested by the influencers that I follow and how I view myself.
Brand expected value	BV1	I think that the brands suggested by the influencers that I follow have an acceptable standard of quality.
	BV2	In my opinion, the products of the brands suggested by the influencers that I follow are well made.
	BV3	The brands suggested by the influencers that I follow seem attractive to me.
Intention to purchase recommended brands	IP1	I would purchase a brand based on the advice I am given by the influencers that I follow.
	IP2	I would follow brand recommendations from the influencers that I follow.
	IP3	In the future, I will purchase the products of brands recommended by the influencers that I follow.

*Source: The authors*



### 3.2. Data collection and participants

A survey data collection method was used for this research. The survey was prepared within the Google form in the Croatian language and, as such, in electronic form was available for resolution in the period from 27.4. to 27.6. 2020. It became available to the general public at the time of its public announcement on the social network Facebook, after which several users shared it with the aim of gathering as many respondents as possible. For the same reason, it was published within certain groups on the social network Facebook. Four hundred and eighty-eight (488) correct answers were collected. Table 3 and Table 4 below show the respondents' demographic indicators, and Table 5, Table 6, and Table 7 answer the questions closely related to social networks.

*Table 3: Gender-related results*

Gender	Frequency	%
Male	49	10%
Female	439	90%

*Source: The authors*

*Table 4: Age group results*

Age	Frequency	%
< 20	105	21,5%
21 – 30	302	61,9%
31 – 40	57	11,7%
> 40	24	4,9%

*Source: The authors*

*Table 5: Answers to the question "How many times do you visit social networks?"*

Answers	Frequency	%
I don't visit at all	1	0,2%
I visit occasionally	17	3,5%
I visit every day	470	96,3%

*Source: The authors*

*Table 6: Answers to the question "Mark the area you follow most often on social networks."*

Field of interest	Frequency	%
Fashion	99	20,3%
Cosmetics	122	25%
Art (music, film, art ...)	54	11,1%
Travel	70	14,3%
Sports	47	9,6%
Gastronomy	54	11,1%
Other	42	8,6%

Source: The authors

*Table 7: Answers to the question "Do you follow the lives of celebrities on social media?"*

Answers	Frequency	%
Yes	299	61,3%
No	189	38,7%

*Source: The authors*

#### 4. DATA ANALYSIS

The collected data analysis measured the reliability of the construct in the measuring instrument using the statistical software package SPSS 23. In contrast, the testing of hypotheses and relationships between variables used confirmatory factor analysis (CFA) using the software package SPSS AMOS 26.

##### 4.1. Internal reliability of the construct

Cronbach's alpha coefficient is the coefficient used to measure the internal reliability of the measurement model construct in this case. The reference value of this coefficient is 0.7. Table 8 shows the Cronbach's coefficient values, and it can be seen that the stated coefficient for each construct is higher than the reference value (0,7).

*Table 8: Internal reliability of measuring instrument*

Construct	Items	Internal reliability		Mean	SD
		Cronbach`s alpha	Item- total correlation		
Perceived Influence	PI1	0,842	0,712	2,410	1,178
	PI2		0,731	2,436	1,313
	PI3		0,685	3,111	1,314
Brand engagement in self-concept	BE1	0,927	0,799	2,209	1,201
	BE2		0,834	1,828	1,083
	BE3		0,857	1,766	1,034
	BE4		0,834	1,908	1,180
Brand expected value	BV1	0,919	0,844	3,039	1,251
	BV2		0,873	3,014	1,206
	BV3		0,793	3,333	1,288
Intention to purchase recommended brands	IP1	0,919	0,864	2,809	1,311
	IP2		0,874	2,764	1,297
	IP3		0,778	2,279	1,182

*Source: The authors*

##### 4.2. Model verification using the structural equation modeling method - SEM

The structural equation modelling method was applied in this case for the purpose of analysing the correlations between variables and with the intention of determining the suitability of the conceptual model. The software package SPSS AMOS 26 was used in the testing. Through the values: GFI, AGFI IFI, TLI, NFI, CFI, RMSEA, and SRMR, the so-called goodness of adaptation or suitability of the conceptual model. In Table 9, it can be seen that all the values measured indicate that the structural model is good or has a good model fit comparing the actual and recommended values.



Hypothesis H2 was also confirmed, i.e., a significant positive impact of digital influencers on the formation of higher expected brand value by followers is visible ( $\beta = 0.997$ , CR = 9.482,  $p < 0.001$ ). Also, hypothesis H3 has confirmed a significant positive impact of digital influencers on the increase of the intention to buy recommended brands by followers was determined ( $\beta = 0.949$ , CR = 4.286,  $p < 0.001$ ). On the other hand, hypothesis H4 was not confirmed because there is no significant positive effect of associating followers with a brand on increasing the intention to buy recommended brands ( $\beta = -0.137$ , CR = -1.438,  $p > 0.05$ ). Also, hypothesis H5 was not confirmed because there is no significant positive effect of associating followers with the brand on the increase in the brand's expected value ( $\beta = -0.158$ , CR = -1.856,  $p > 0.05$ ). Hypothesis H6 is also not confirmed because there is no significant positive impact of the follower's expected brand value on the increase of the intention to purchase the recommended brands ( $\beta = 0.124$ , CR = 0.866,  $p > 0.05$ ). Results of hypothesis testing are shown in Figure 3.

Table 10: Summary of the hypothesis testing results

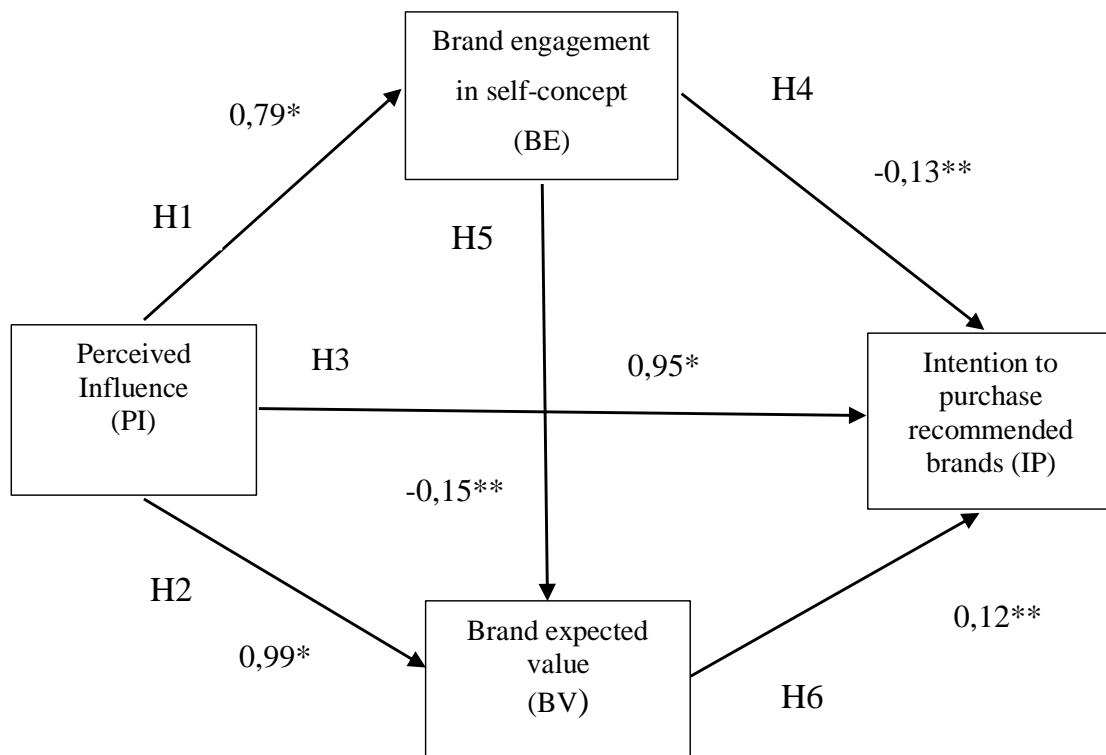
Hypothesis	Independent variable	Dependent variable	Standard estimate $\beta$	( CR)	P-value	(Not)supported
H1 (+)	PI	BE	0,792	16,859	***	Supported
H2 (+)	PI	BV	0,997	9,482	***	Supported
H3 (+)	PI	IP	0,949	4,286	***	Supported
H4 (+)	BE	IP	-0,137	-1,438	0,150	N/S
H5 (+)	BE	BV	-0,158	-1,856	0,063	N/S
H6 (+)	BV	IP	0,124	0,866	0,386	NS

\*\*\*  $P < 0,001$

CR – Critical value, PI – Perceived Influence, BE - Brand engagement in self-concept, BV - Brand expected value, IP - Intention to purchase recommended brands

Source: The authors

Figure 3: Hypothesis testing results



\*\* $P > 0,05$ ; \*  $P < 0,001$

Source: The authors

With the help of the coefficient of determination (R<sup>2</sup>), whose value ranges from 0 to 1, the representativeness of the research model was checked. The closer the coefficient is to 1, the more representative the model (Biljan-August et al., 2009). According to the results, it is concluded that 62.8% of the variance of brand engagement in the self-concept is explained by the positive influence of one independent variable (perceived influence). Furthermore, 76.9% of the variance in the brand's expected value was explained by the influence of two independent variables (perceived influence and brand engagement in self-concept). Independent variables (perceived influence, brand engagement in self-concept, and expected value) explain 91.2% of the variance of the dependent variable (intent to purchase). The results are shown in Table 11 below.

*Table 11: Squared multiple correlations of the proposed research model*

<b>Construct</b>	<b>Value</b>
BE - Brand engagement in self-concept	62,8% (0,628)
BV - Brand expected value	76,9% (0,769)
IP - Intention to purchase	91,2% (0,912)

*Source: The authors*

## **5. DISCUSSION, IMPLICATIONS, AND LIMITATIONS**

This paper aim is to investigate A) the impact of influencers on followers' brand engagement in self-concept, expected brand value, and intent to purchase, B) the impact of brand engagement in self-concept on expected brand value and intent to purchase, and C) the impact of followers expected brand value on intent to purchase. According to the research results, there is a positive correlation between the perceived influence and followers' brand engagement in self-concept, the expected value of the brand, and the intention to buy. Respondents do not consider influencers' influence to be crucial to the intent to purchase (the mean ranges from 2,410 to 3,111). Also, they do not consider it important to link to the brand for the intent to purchase (the mean is in the range of 1,766 to 2,209). Likewise, the expected value is not largely crucial to respondents in their intention to purchase (the mean is in the range of 3,014 to 3,333). When it comes to associating followers with a brand, it was found that there is no positive association of the same factor with the intention to buy or with the expected value of the brand. Similarly, no positive impact of the brand's expected value with the intent to purchase has been demonstrated. Thus, hypotheses H4, H5, and H6 of this study were rejected. In addition to new scientific knowledge in the field of customer behaviour when making purchasing decisions, the results can help practitioners create promotional and sales strategies that rely on influence marketing. This research's main limitations are related to the sample that can be considered purposive given the use of only one social network and its structure (439 women and 49 men and 82% up to 30 years of age). Due to the above, the possibility of generalizing the results to the entire population of potential buyers is therefore limited. It is recommended that the following surveys use different survey techniques (social networks, e-mail, and personal surveys) to cover a broader range of the population.

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## EXPLORING MIGRATION FLOWS WITH INTERNATIONAL STUDENTS OF SLOVAKIA

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### ABSTRACT

*In this article we will look at legal migration or mobility associated with Slovakia. Mobility or relocation of individuals is not measured between countries within the EU. This is due to the Schengen Agreement, which has been adopted by all European Union (EU) countries. However, institutions such as Eurostat and the OECD conduct statistical surveys on student migration. Therefore, in this article we looked at the flows of Slovak students studying abroad and analysed their favourite destinations and types of study. Additionally, we were interested in the flows of foreign students heading to Slovakia. In the analysis, we compared the degrees that these young people plan to pursue abroad or in Slovakia. The article presents a quantitative analysis of human capital flows of students to and from Slovakia – brain gain and brain drain. **Keywords:** Emigration of Slovak students, Immigration of foreign students to Slovakia, Brain drain, Brain gain*

### 1. INTRODUCTION

The problem of migration is currently affecting the whole population more and more profoundly. Most people see migration as an illegal movement. In this article, however, we investigated the voluntary migration associated with higher education or skills. The article is an elongation of the study on migration of Slovak students. (Chrančoková et al., 2020) It is focused on a broader continuation of the study and a deeper investigation of the problem. In this article, we considered migration flows of students in both directions, from Slovakia and to Slovakia. We were interested in emigration flows of Slovak students to foreign universities and immigration flows of foreign students to Slovak universities. Why is this study focusing on students? There are multiple reasons. 1. Young educated people are very important for the development of the economy, 2. There is an increasing demand for higher education abroad due to low credential value of the domestic education system, 3. Availability of the data - Eurostat and the OECD databases regarding migration and mobility are focused on students' migration. It is due to the fact that the mobility of the citizens of the member countries of the European Union is not statistically recorded. Namely, the EU member states agreed with the Schengen agreement. This agreement allows citizens of EU member states to move within the area of the EU without border checks. As a result, there is very little data about this. 4. Last, but not the least: For all member countries, education is associated with one of the three main objectives of the Europe 2020 strategy, and crucial for an increase in smart growth. This means developing an economy based on knowledge and innovation. These reasons directed us to the flows of students. The published data on the students' flows were from 2013 to 2018, and on the basis of them we created the core of the article. When analysing the data collected, we used logic and deduction. Article is divided into five chapters. The first chapter is an introduction, the second one deals with general migration theories, the third one deals with the emigration of



Slovak students abroad, the fourth one deals with the immigration of foreign students into Slovakia and the fifth chapter is the conclusion of the article, where we commented the findings.

## **2. MIGRATIONS' THEORIES**

Almost every one of us has encountered migration. But not everyone can classify migration correctly. In order to be able to evaluate it accurately, it is necessary to read several research theories and decide which one would you find the most plausible. Every migration theory has its justification and is based on long-term research. Russel King marked the beginning of the 21st century as an era of migration (King, 2008). The causes of migration can vary significantly. Neoclassical economists considered employment as the main reason for migration (Todaro, 1980). Massey (1993) states that the neoclassical theory focuses on and is concerned with the income differences, especially in wages. They consider the main reason for migration to be maximization of income. On the other hand, the so-called neo-economists of migration offer a different view on migration. They consider the individuals instead of households when it comes to migration (Stark, 1996). A very important theory of migration is the push pull theory. Lee (1972) was one of the creators in this theory. Push factors include: poor economic situation in home countries, low living standards, ethnic or civil unrest, violent conflicts, political discrimination, increasing population density, etc. Pull factors are such as: higher wages, higher living conditions, better job opportunities. In the case of students' emigration, the main reason is a lack of job opportunities in the individual's area of interest. (Chrančoková, 2016; Weibl, 2015). There is also a theory related to work, called the theory of the dual labour market. It is based on the idea of Piore (1979), according to which migration is not caused by push factors, but by pull factors of recipient countries (labour shortages). We have a similar view as King (2008) and Divinsky (2009) that there is in fact no systemic theory of migration that would provide a comprehensive view of migration issues. In this article, we will examine the flow of student migration: brain drain and gain. Students today are very important for the future of every country. Their human capital will change after study and will shape the story of the country. Students carry a capital of knowledge and skills that would be directed in some way to the country in which they choose to live. The basic definition was created by G. S. Becker (1967), who understands human capital as abilities, skills and corresponding motivations for the use of these abilities and skills. The migration can be a source of tacit knowledge too. It is the knowledge that people gain based on their experience. Tacit knowledge was defined and addressed by Williams and Baláž (2008). There exist articles focused on the tacit knowledge obtained from abroad, and the respondents were students. Research has shown that students from abroad bring in flexibility, responsibility and a lot of cultural knowledge associated with the language skills (Chrančoková, 2016, 2019).

## **3. EMIGRATION OF SLOVAK STUDENTS**

In 2017, the Institute of Financial Policy of the Ministry of Finance of the Slovak Republic published a study on the Slovak emigration. The main conclusion was that Slovakia faces a significant brain drain in addition to the country's demographic deficit. The analysis was based on the data from compulsory health insurance registrations. They found that there was a significant decrease in the number of inhabitants with a health insurance in Slovakia. Additionally about 300,000 people left the country in the last 15 years, which means approximately 5% of the population. Also, these data show that the fastest decline of Slovaks took place in 2004 (at the time of entry of the country to the EU). During years 2004 and 2005 the population size decreased by more than 200,000. Since then, the situation has gradually stabilized. It was found that approximately 15,000 Slovaks leave their mother country every year, which represents 0.3% of the population. For the past 15 years, half of Slovak migrants were under the age of 30 years (MoF, 2017).

This information refers to the overall migration of the country. However, in this article we focused on student mobility due to better availability of the data. The research sample consisted of Slovak students who studied abroad in the years between 2013 and 2018. We divided the students according to the degree they were studying for or have studied for abroad. The mentioned sorting helped us to classify the obtained data so that we got a certain overview of study's attractiveness for Slovak students. Additionally, we analysed the strengthens of these flows of Slovak students. The analysed data (Table 1) were processed from Eurostat (2020).

Type of study / Year	2013	2014	2015	2016	2017	2018
Bc.	17,507	16,855	16,214	16,369	16,130	15,849
Master	11,845	11,862	11,801	11,648	11,750	11,703
PhD.	-	-	-	-	-	-

Table 1: Number of students Slovak emigrant for education by type of study in the EU 28<sup>1</sup>  
(Source: Eurostat,2020; Chrančoková et al., 2020)

Research has shown that bachelor's studies are more attractive for Slovak students than master's ones. 2013 was the strongest year for those who have studied degree Bc. There were up to 17,507 students studying abroad. In comparison with the Master study, there were only 11,845 Slovak students studying abroad. For comparison, in 2018 the number of Slovak students studying the degree of Bc. decreased to 15,849 and the flow of Slovak students studying the Master degree remained stable. Flows of PhD students were not available in the Eurostat database. In a deeper analysis, we focused on the countries Slovak students really decided for. Based on the results of the analysis, we created country rankings separately for each type of study and finally ranked the collected data from the largest to the smallest for the last year, 2018. Firstly, we analysed the Bc. degrees. We selected the top 10 countries for the mentioned type of study. The data showed the most visited country to obtain the Bc. degree was the Czech Republic with 10,935 Slovak students in 2018, with the highest number in 2013. The second most favourite country for studying abroad was the United Kingdom (UK), while the number of Slovaks studying there was only 12% of students studying in the Czech Republic. In 2018, there were only 1,353 Slovaks students studying in the UK. The third most popular country was Hungary, the fourth country is Denmark and the fifth country is Austria. Other countries that belong to the top 10 are countries such as the Netherlands, Germany, Italy and France. Interestingly, the number of students in Denmark has increased. Specific numbers are in Table 2 (Chrančoková et al., 2020).

No.	Country/ Year	2013	2014	2015	2016	2017	2018
1	Czechia	13,396	12, 667	12,015	11,747	11,472	10,935
2	United Kingdom (UK)	954	976	1,056	1,101	1,295	1,353
3	Hungary	1,577	1,519	1,228	1,291	1,211	1,103
4	Denmark	103	157	273	407	499	617
5	Austria	606	640	628	594	571	503
6	Poland	63	69	81	375	528	450
7	Netherland	183	207	255	271	314	345
8	Germany	251	251	279	274	262	272
9	Italy	:	123	102	80	72	78
10	France	118	104	102	114	97	53

Table 2: Top 10 countries for Slovak students studying degree Bc.  
(Source: Eurostat,2020; Chrančoková et al., 2020)

<sup>1</sup> 28 EU member states (including the UK)

When analysing statistics about Master's degree students, the Czech Republic again clearly is the most popular country among young Slovaks. The degree of Master was studied in 2018 in Czech Republic by up to 9,181 Slovak students. The second most popular country was Hungary with a significantly lower number of students - 522. The third country was Germany, the fourth one was Austria and the fifth one to study the Master's degree was the United Kingdom (UK). Other countries were similar to the Bc. study countries: Denmark, the Netherlands, France, Italy and Poland. (Table 3).

No.	Country / Year	2013	2014	2015	2016	2017	2018
1	Czechia	9,185	9,216	9,119	8,937	9,141	9,181
2	Hungary	711	678	559	616	583	522
3	Germany	595	631	652	618	532	518
4	Austria	464	372	426	462	450	416
5	United Kingdom (UK)	280	285	244	212	267	271
6	Denmark	76	103	146	183	197	241
7	Netherland	87	91	118	123	123	144
8	France	177	210	190	160	165	123
9	Italy	82	69	74	72	69	65
10	Poland	54	57	90	130	215	53

*Table 3: Top 10 countries for Slovak students studying degree Master  
(Source: Eurostat, 2020; Chrančoková et al., 2020)*

The Czech Republic became the most visited country for doctoral studies, with 1,818 Slovak students 2018. (Table 4) The second country was the UK with a significantly lower number of students (5% of students in Czech Republic). The third country was Austria, the fourth was Hungary and the fifth was Switzerland. To the top 10 countries for studying PhD. belonged France, Spain, the Netherlands, Sweden and Poland.

No.	Country / Year	2012	2013	2014	2015	2016	2017	2018
1	Czechia	:	1,697	1,759	1,766	1,809	1,842	1,818
2	United Kingdom	:	87	72	71	82	93	97
3	Austria	:	95	64	66	61	64	59
4	Hungary	:	70	86	71	81	60	59
5	Switzerland	31	36	38	41	48	59	57
6	France	:	32	36	35	37	35	22
7	Spain	:	4	:	:	10	17	22
8	Netherland	:	19	17	17	18	20	20
9	Sweden	:	13	15	13	15	15	14
10	Poland	:	2	10	10	11	14	14

*Table 4: Top 10 countries for Slovak students studying titul PhD  
(Source: Eurostat, 2020; Chrančoková et al., 2020)*

Since 2013, the Czech Republic has been a leader in the rankings for all types of studies. Additionally, the V4 countries always figured among the top ten most popular countries. The analyses showed the countries' ranks didn't significantly change and seem to indicate a stable trend.

#### **4. IMMIGRATION OF FOREIGN STUDENTS TO SLOVAKIA**

Immigration describes the opposite direction of people's relocation, what means the movement from the destination country to the country of origin. Since these flows involve students again, we can also call them the brains gain of Slovakia from abroad. It will certainly not surprise us that Slovakia is not as attractive a country for education and also for living as Western European countries.

Young Slovaks are following this trend and prefer the western countries for migration and increasing their education. As in the previous chapter, we were interested in the strongest and the most intensive flows of students. In this case the movement of foreign students to Slovakia. As Czechia is the most attractive region for obtaining Bc. Degree for Slovak students heading abroad, so Slovakia is the most popular destination for the Czechs. In 2013, this flow was very strong, with up to 5,302 Czech students coming to study in Slovakia. (Table 5) However, this flow took a declining trend and in 2018 there were only 2,050 Czech students pursuing their Bc. degree. The second country whose students have chosen Slovakia to study is Ukraine with 1,535 students. Other countries that sent to Slovakia their human capital were countries such as Serbia, Hungary, Asia, Russia, Romania, Turkey, Norway and Spain. Majority of the countries are the central European and eastern countries. The only exceptions are Norway and Spain. See Table 5 for more information.

No.	Country / Year	2013	2014	2015	2016	2017	2018
1	Czechia	5,302	5,292	4,864	2,620	2,361	2,050
2	Ukraine	216	814	481	538	950	1,535
3	Serbia	373	370	476	413	548	571
4	Hungary	77	88	97	131	291	406
5	Asia	457	498	510	119	151	236
6	Russia	48	67	78	54	50	80
7	Romania	69	82	113	76	25	25
8	Turkey	18	36	95	30	23	24
9	Norway	445	507	537	25	21	23
10	Spain	104	147	182	22	20	15

*Table 5: Top 10 countries for foreign students studying Bc. Degree in Slovakia  
(Source: Eurostat, 2020; Chrančoková et al., 2020)*

The strongest flow of students for Master studies in Slovakia was from Czech Republic with 1,312 students. It was followed by Asia, Norway, Greece, Germany, Poland, Ukraine, Israel, Spain and the UK. Based on this data, we can say that Slovakia attracted students from various countries for the Master study. There are countries of southern Europe and eastern Europe, but there are also representatives of western and northern European countries. In the case of the Master study, the Eurostat database provided us only with data from 2016 to 2018 (more in Table 6).

No.	Country / Year	2016	2017	2018
1	Czechia	1,280	1,436	1,312
2	Asia	478	536	755
3	Norway	533	560	561
4	Germany	349	435	537
5	Poland	295	361	410
6	Ukraine	205	262	355
7	Greece	698	510	353
8	Israel	231	261	283
9	Spain	117	149	195
10	United Kingdom	154	146	119

*Table 6: Top 10 countries for foreign students studying degree Master in Slovakia  
(Source: Eurostat, 2020; Chrančoková et al., 2020)*

The German PhD. students were the most interested in studying in Slovakia, followed by Czech, Polish, Asian, Ukrainian, African, Serbian, Libyan, Hungarian and Austrian students.

However, there is not such a significant difference between the German and Czech flows, but the trend since 2013 shows a stable trend in both countries. As can be seen in Table 7, Slovakia was an interesting destination for a diverse group of PhD. students.

No.	Country / Year	2013	2014	2015	2016	2017	2018
1	Germany	332	297	253	209	196	179
2	Czechia	192	185	174	171	153	134
3	Poland	127	138	139	127	115	94
4	Asia	41	44	50	46	49	52
5	Ukraine	20	19	31	36	46	61
6	Africa	59	47	30	27	28	26
7	Serbia	25	31	31	29	27	27
8	Libya	37	31	22	25	16	12
9	Hungary	15	17	14	12	15	16
10	Austria	50	38	30	17	13	5

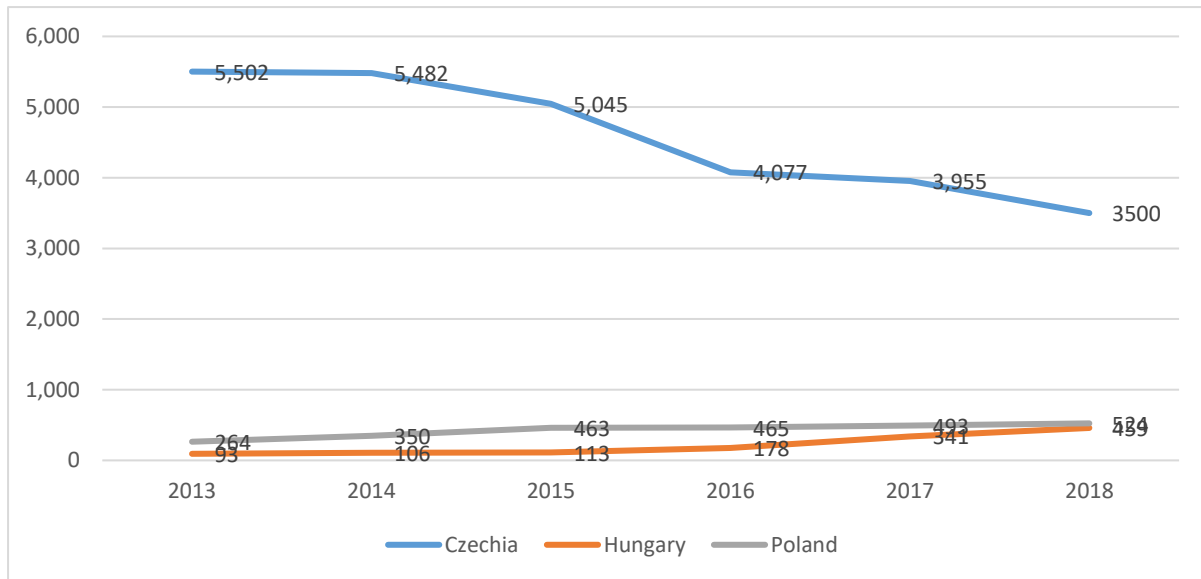
*Table 7: Top 10 countries for foreign students studying PhD. degree in Slovakia (Source: Eurostat, 2020; Chrančoková et al., 2020)*

Furthermore, in our research we were interested in brain gain of students from our neighbours, more precisely from the V4 countries (Czechia, Hungary and Poland). We can see (Table 8) that the strongest flow of students was from the Czech Republic. However, the data had a declining trend. The strongest flow of Czech students to Slovakia was in 2013 and was declining every year until 2018. The second country in the ranking of this table is Hungary, where we can see a growing trend. While in 2013 only 93 Hungarian students were interested in Slovak schools, in 2018 this flow increased to 459. In the third country, Poland, we can also see a growing interest of Polish students for studying in Slovakia. From 2013 to 2018, this flow increased by 260 students. The numbers of students in Hungarian and Polish flows were converging. The flows are visually illustrated in Figure 1.

Country / Year	2013	2014	2015	2016	2017	2018
Czechia	5,502	5,482	5,045	4,077	3,955	3,500
Hungary	93	106	113	178	341	459
Poland	264	350	463	465	493	524

*Table 8: Top 10 countries for foreign students studying in countries V4 (Source: Eurostat, 2020; Chrančoková et al., 2020)*

*Figure following on the next page*



*Figure 1: Flows of foreign students studying in countries V4 (2013 – 2018)*  
(Source: Eurostat, 2020; Chrančoková et al., 2020)

In Figure 1 we can see a declining trend in the flow of Czech students to Slovak schools, which is quite peculiar. The number of Czech students is significantly higher than the count of Hungarian and Polish students. Nevertheless, we can see a decline in the flow of Czech students observed every year. On the contrary, the flows of Hungarian and Polish students have a growing trend, with much lower levels compared to the Czech flow.

## 5. CONCLUSION

Based on our research it can be said that studying abroad is becoming more and more attractive for Slovak students. The most important flows of Slovak students lead to the V4 countries (Czech Republic, Poland and Hungary) with the strongest flow to Czech Republic. The lastly mentioned one can be considered as the strongest brain drain. In 2017 up to 22,478 Slovak students left for the Czech Republic. On the basis of our analysis, the top 10 countries included the United Kingdom and Austria. The reasons why are the students heading to these countries are not clear from used data. In the future, further research could clarify this issue. So far, we could only state the most probable reasons. One of them is the language similarity (Slovak language with Czech one) and understanding of the language (many Slovaks can speak fluently in Hungarian language, especially those living on the south border with Hungary). The other is the distance that can be the other important factor for place decision for studying. The V4 countries are the neighbouring countries so they have a big advantage for some part of the students 'community. The other reason for choosing studying locality (especially Czech Republic) can be due to parental upbringing. The older generation of Slovaks remember the time when Slovakia and the Czech Republic formed one state. The other very important influence is the reputation or the name of foreign universities. Regarding more distant countries, it may be true that studying abroad for Slovak students is mainly attractive for gaining new language experience. On the contrary, Slovakia is an attractive place for education for foreign students from several countries. For bachelor's studies, Slovakia is the most attractive for students from the Czech Republic, Ukraine and Serbia, for master's studies there were students from the Czech Republic, Norway and Asia, and for doctoral studies there were students from Germany, the Czech Republic and Poland. In the rankings created for this article, we can see that immigration brought different demand for each type of study. The strongest was the Czech flow of students, where we observed a rapid decline in 2013 from 5,302 students to 2,050 in 2018.

Of course, there may be other reasons for this decline, but we are inclined to the same reason as Slovakia has. It is a demographic decline in the population of Czech Republic. Studying in Slovakia was interesting for inhabitants of eastern, southern, but also northern European countries and students from Asia. There are many questions we cannot answer from the data, such as what were the reasons for choosing Slovakia as a country for obtaining a good and quality education. Or whether these students decide to stay in Slovakia after their studies or take it only as an intermediate step to obtain a degree. The best way to identify the gaps missing to explain our questions is to pursue a wider data collection in databases for all EU Member States. A clear questionnaire could be very helpful for many quantitative researchers. Foreign students would directly express and explain their reasons and motivations for studying abroad. It would be interesting to know if the young people intend to return to their country of origin upon completion of their studies. The country of origin should also be more interested in these people, so that the country of origin does not lose such valuable human capital. One reason for these trends may be that education in the EU is free. However, the cost of this free education is covered by the country of origin, which hopes that this capital will be returned once. And these young people will start working, and will help the economy of the country of origin. On the other hand, the country of origin should provide young people with the opportunities to find a job and earn a satisfactory salary.

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## DEVELOPING PROFESSIONAL COMPETENCIES IN THE DIGITAL ECONOMY

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### ABSTRACT

*The paper studies the challenge of developing professional competencies in the digital economy. The changes in the labour market have been analysed, namely: workers do not meet the employers' requirements; the unemployment rate in the world is growing; employees consider changing their careers and professions; professional burnout is a widespread phenomenon. Trends in the extinction of professions and the emergence of new ones are presented in the Atlas of New Professions by the SKOLKOVO Moscow School of Management and the RF Agency for Strategic Initiatives. The article reviews the existing tools and methods for the development of professional competencies. Five key players of the educational process are identified and described: the state, accredited educational institutions, private companies, formal and informal professional communities, and individuals. There are three types of programmes implemented through information technologies: distance learning, e-learning, and smart learning. A comparative analysis of information tools used by these programmes was made: interactive tools for developing professional competencies of common-interest communities or professional communities within a particular industry; software products integrated into the main systems in order to improve the quality of the educational process; world leaders in the field of distance learning; network business schools; banking educational products; a project for personnel training within the framework of the Digital Economy state-run project. A review of professional diagnostics that can be used for the development of professional competencies in the digital economy is made. The concept of a digital platform for the development of professional competencies is described.*

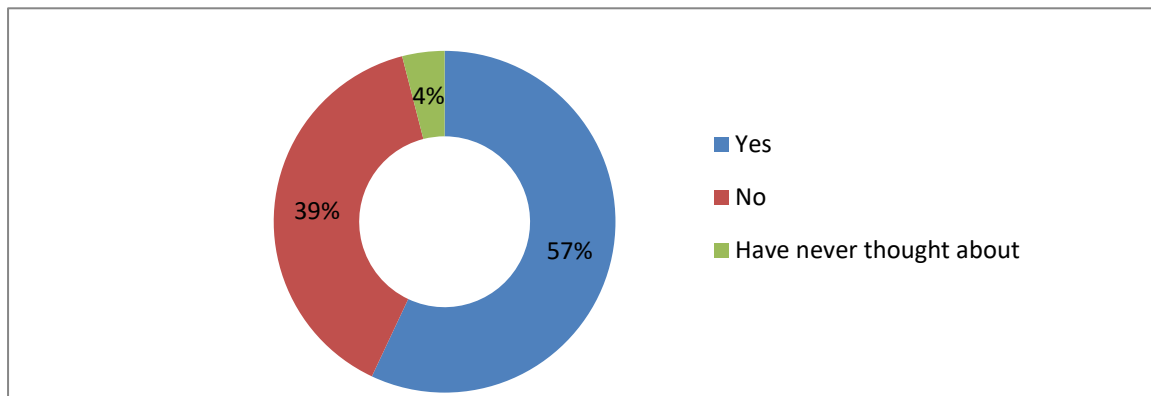
**Keywords:** *professional development, professional diagnostics, information tools in education, professional development tools, distance learning, e-learning, smart learning, digital platform for the development of professional competencies*

### 1. INTRODUCTION

Digital transformation of the market has become the most relevant trend in today's economy. For a long time, this process was understood as digital data processing and the introduction of digital technologies into payment systems. But it is obvious that the digitalization of the economy covers a large number of areas, one of the main consequences being changes in the labour market caused the changes in the requirements for employee's professional competencies in various professions. The main reason is the technological breakthroughs resulting in an increasing number of tasks that can be performed by machines rather than people.

## 2. CHANGES IN THE LABOUR MARKET AND NEW PROFESSIONAL CHALLENGES

Over the past decade, the labour market has undergone significant changes and the fact that employees do not meet the employers' requirements is becoming an urgent issue. According to the International Labour Organization, at the end of 2018 the unemployment rate in the world reached 5.6 % (more than 192 million people of the global working-age population) [1]. At the same time, according to experts, the main problem is the discrepancy between the conditions of work and the financial reward. McKinsey Global Institute, a large analytical company, published a report, saying that more than 400 million people will have lost their jobs by 2030 as a result of labour automation, the use of artificial intelligence and machine learning, which constitute about 15% of all jobs at present [2]. At the same time, Hays international recruitment company, specializing in recruitment in various fields, in its study "Motivation and job satisfaction", conducted in 2018, highlights a serious issue of dissatisfaction and professional burnout of employees in almost all professional areas [3]. Thus, according to the data presented in figure 1, the majority of respondents considered changing their career and profession (57% of respondents). It is noteworthy that most of them (34%) discovered their talent in other activities, 28% were disappointed in the profession, and 26% decided to start their own business.



*Figure 1: The number of respondents who considered changing their careers based on the results of the Hays survey*

About 80% of respondents are aware of professional burnout cases among their acquaintances, friends or colleagues. At the same time, in such cases, the majority of employees who faced this problem quit and looked for a new job in another field (63% of respondents), changed their profession (54%), started their own business (27%) and started receiving additional education (26%). Meanwhile, the most important non-material motivational factor was "the possibility of professional development, development of new skills and expertise" (63% of respondents), and 38% of respondents indicated the possibility of training within the company. This indicates that employees understand the need to improve their own professional skills and seek out professional growth. The listed challenges, specialists in various industries are facing, require a serious review of their own life trajectory and determination of the field of knowledge application. At the same time, under the conditions of the rapidly changing market, the emergence of new professions and increasingly stringent requirements for employee's professional competencies, it is difficult to determine possible ways of development. As a result of a large-scale study of trends in the development of major industries, experts of the SKOLKOVO Moscow School of Management and The Agency for Strategic Initiatives developed the Atlas of New Professions [4], which emphasise the need to adapt employees and employers to new conditions.

So, according to the developers of the Atlas of New Professions, more than 180 new professions will have appeared in the labour market by 2030, and more than 50 existing professions will have disappeared. The Atlas helps to understand what competencies and qualifications of future specialists will be in demand in the market. The professions of the future are characterised by a distinguishing wide "palette" of skills (both hard and soft skills), and not highly specialized knowledge. Soft skills ("soft" skills) in this case are quite important, since in the near future training will not be targeted at obtaining knowledge in some specific professional field, but developing a certain set of competencies (knowledge, skills, abilities) that a sought-after specialist will have to possess. At the same time, the obsolescence of competencies in the modern world is so rapid that it is no longer possible to get one profession for life and there is a need for a life-long learning approach to education. To solve this problem, a tool shaping a set of knowledge needed for effective work in the digital economy is required. Currently, a large number of both online and off-line information resources have already emerged. So, to obtain the required competencies, the existing online platforms can be used, including those from leading world universities ([www.coursera.org](http://www.coursera.org); [www.edx.org](http://www.edx.org); [www.skillwise.com](http://www.skillwise.com), etc), offering both paid and free training courses in various professions and various fields of knowledge. There is also a large number of different educational organizations worldwide that offer educational programmes in various formats. Given such a variety of existing educational opportunities, the difficulty lies precisely in determining what will bring the greatest benefits and allow you to obtain the required competencies. The situation is also aggravated by the fact that not every employee is able to determine what exactly needs to be studied to improve their own professionalism, or determine the type of future activity in which they will be successful. Thus, an individual faces a very difficult challenge of constructing their own personal development trajectory and choosing the resource that will fully meet their requirements for the required professional competencies.

### **3. EXISTING TOOLS AND METHODS FOR DEVELOPING PROFESSIONAL COMPETENCIES**

The variety of tools and methods of professional training and self-development is justified, on the one hand, by the demand from society as a whole and the individual (as the recipient of this information product), on the other hand, by the existing hierarchical structure of the traditional education. This allows us to identify the following five key participants of the process.

- The state - through legal acts, by creating conditions for the educational process, providing access to information and infrastructure, forming the trajectory of national development through state programmes and projects (for example, projects aiming at the improvement of financial and computer literacy of the population, promoting foreign languages learning, etc.);
- Accredited educational institutions that provide educational services, including higher education institutions that provide additional education services (including those constructing electronic educational environment).
- Private companies that provide a wide range of consulting and information services in the development of group and personal competencies;
- Formal and informal professional internet communities, offering various content (books, audio and video recordings, discussion platforms, etc.)
- A person (group, organization, society) as a recipient (distributor) of educational services (information).

Thus, the range of subjects and objects of educational activity is being expanded thanks to the opportunities (easy access to the necessary information, accumulation, dissemination, availability of various databases, etc., openness of official and unofficial sources, etc.) that

information technologies open. The development of technology has led to the development of programmes implemented through information technology:

- distance learning (based on teacher-student interaction through information technologies);
- e-learning (e-learning and m-learning – using specially designed electronic educational courses available on a personal computer or mobile device, including applications);
- smart learning (based on the integration of interactive learning through the interaction with representatives of professional communities when performing course tasks).

In addition, the Internet offers a variety of web-sites, educational websites and platforms that offer all kinds of courses (including Instagram), coaching seminars, business trainings on skills development (in the field of leadership, teamwork, time management, presentations, debates, etc.), services providing tutoring, simulators (gamification and eSports), electronic libraries, new social media( social networks), Youtube and Telegram channels, web 2.0 services, mass open online courses (moocs), etc. As well as various formats in the field of development (knowledge acquisition) through communication (building professional knowledge networks): participation in conferences, presentations, forums, online discussions, webinars, groups in messengers and social networks, blogs, scientific consultations and joint publications. Table 1 shows a sample comparison of information tools for the professional development. The comparison does not include educational events presented on the official pages of state and municipal services, business events web-sites. The presented analysis allows us to understand that this huge number of information tools makes the process of building an individual development trajectory time-consuming and often impossible. At the same time, the effectiveness of professional development within the individual trajectory is obvious and requires professional diagnostics.

*Table following on the next page*

Table 1: Information tools for professional development

Category	Title	Description (characteristic)	Advantages	Disadvantages
Interactive tools for development of professional competencies of common-interest communities members or within a particular profession (for example, teachers)	<i>Internet services and web 2.0 technologies</i>	New generation networks allow us to simplify the process of creating materials, provide the ability to create our own network content.	A large number of specialized programmes for working with various editors, libraries, programmes for the exchange and visualization of information, independent organization of the learning process, and the use of system tools.	The tools are scattered. The choice is based on personal preferences.
	<i>Openprofession<sup>1</sup></i>	Platform for additional professional online education containing courses from leading Russian universities and industry leaders.	Targeted at the professions of the future. Grouping by the linkage between the course and the profession (specialty). Courses of reputable universities are presented. Integration with WorldSkills Academy. Possibility to create courses on the platform.	The most appealing courses are not free. Limited time for programme implementation. You need to track the courses and programmes you are interested in by yourself. The user does not have the possibility to determine whether the course is compatible with their current knowledge / skills.
Software products integrated with the main systems in order to improve the quality of the educational process	<i>Simformer Courses<sup>2</sup></i>	An innovative business simulation platform for practice-oriented management training, for developing business management skills.	It integrates with traditional distance learning systems, contains gamification elements, case studies, allows to practice skills, and has a multi-user format.	Limited scope, integrated within the course for a specific training task.
	<i>Psychometric expert<sup>3</sup></i>	Multifunctional (hybrid) computer diagnostic system.	Testing system, data storage library, with the possibility of professional personnel assessment, including psychological issues.	Paid platform. Contains extensive information about various formats of personality assessment, the use of which requires a certain level of user training for sorting and using techniques.
World leaders in the field of distance learning	<i>Mooc platforms</i>	Educational platforms based on the principles of openness, mass participation and accessibility.	High capacity of users. Certificates can be recognized by companies or credited by other universities. Promotes open access and free education. Ensures participation in international educational communication. Provides opportunity to participate in thematic forums and act as a course reviewer. Individual courses use elements of gamification	Paid courses, textbooks and certificates are available. Only selective courses are available, thus restricting the users from mastering the full training program. Users take the courses to improve their knowledge through the advanced content, and less often to get basic training. Deadlines for task completion. The main language is English. Courses on the platforms differ in relevance and quality.
Network business schools	<i>BUSINESS INSIGHT<sup>4</sup></i>	Club-type business school. Holds webinars in a number of areas.	A wide range of different webinars. The format allows the users to ask the speaker a question and get advice while participating.	As a rule, it follows the principle of involvement - the basic knowledge is provided free of charge, the advanced level is paid, the cost and quality of knowledge varies depending on the course presenter (coach, speaker, school, etc.).
	<i>AlorSchool, etc.</i>	Training in stock market trading: webinars, consulting services.		
Banking education products	<i>Sberbank<sup>5</sup> (Business class)</i>	Business skills development programme for entrepreneurs, traders, etc.	Offers courses and materials on a specific topic. Depending on the project, there can be long (more than 1 hour) or short (10-15 minutes) lectures and a list of questions for the assessment of the learning results. Compressed format, basic information, competent presentation. Free resource, registration required.	The format is set by the product and is focused on literacy programmes. Long lectures are difficult for comprehension when given remotely, short ones – on the contrary, due to time constraints, give information without explaining the details and the reasons.
	<i>Otkritie (video courses, seminars and webinars, trading training - The Broker), etc.</i>			
Training project is a part of the state NTI project	<i>NTI University 20.35</i>	A digital platform with an ever-expanding list of educational opportunities and four recommendation services employing artificial intelligence.	Offers to diagnose the user and to create their profile at the moment. Offers communication between the users, creation of a project team, a common-interest group. Offers an opportunity to place an ad and hold an event. Free access to the venues of the events. Informing about achievements, new formats and approaches. Integration with various universities and educational platforms.	It is necessary to track events and the quality of the content does not always meet the user's expectations. Some events have advertising goals to promote products or services. The final set of knowledge may not meet the user's expectations.

<sup>1</sup> <https://openprofession.ru/><sup>2</sup> <https://marketplace.simformer.com/ru><sup>3</sup> <https://www.psychometrica.ru/index.php/program-about/programm-about><sup>4</sup> <https://bi-school.ru/?na=v&nk=2669-016d5ba5a8&id=29><sup>5</sup> <https://www.sberbank.ru/common/img/uploaded/redirected/google/>

#### 4. METHODS OF PROFESSIONAL DIAGNOSTICS

To date, quite a large number of both Russian and foreign professional diagnostics techniques have been developed [5, 6], which are used by employment services, career guidance centers, recruitment agencies, HR specialists, etc. In accordance with the problem described above, we will consider only techniques that allow to diagnose a person without ever meeting them (which seems appropriate in the digital economy), namely by personality questionnaires and aptitude tests. The classification of remote professional diagnostics methods presented in figure 2 can only be considered in the context of the above-mentioned problem and does not claim to be complete.

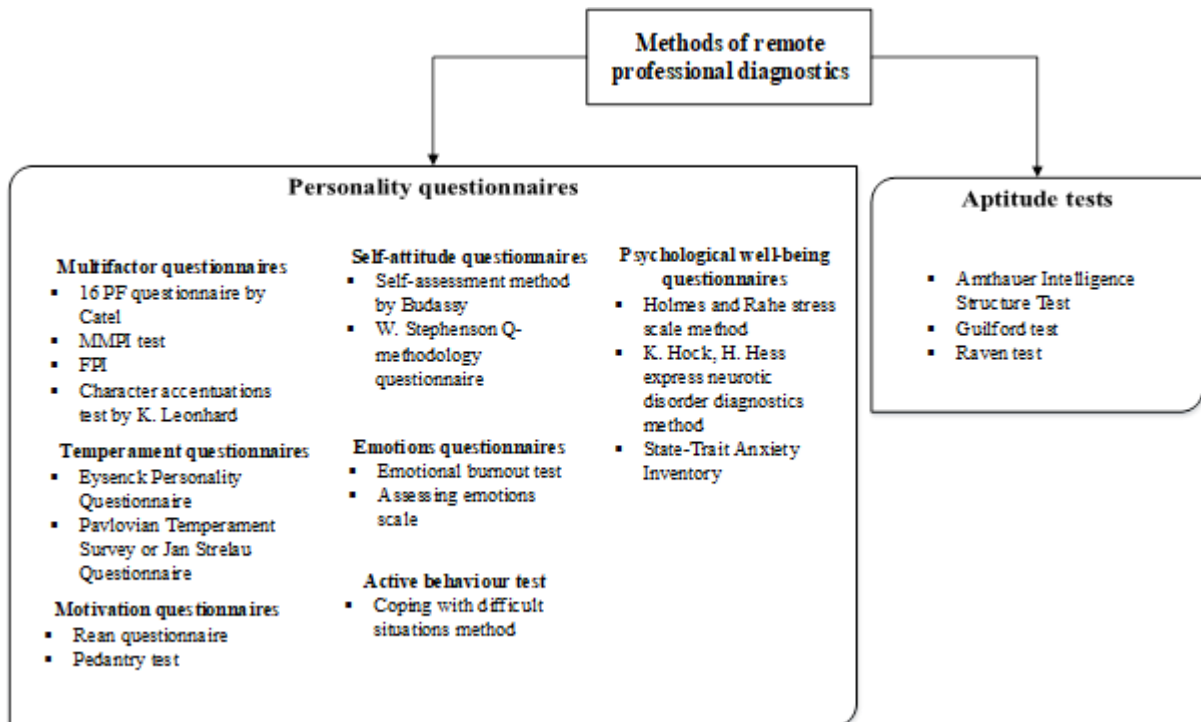


Figure 2: Classification of remote professional diagnostics techniques

Personality questionnaires [7] belong to a type of psychodiagnostic methods designed to determine the degree of expression of certain personal characteristics in an individual. Due to the fact that these types of personality questionnaires usually diagnose the character features, temperament, interpersonal relationships, motivational and emotional sphere, in order to determine the individual trajectory of development, they can be used only partially. For example, the Milton Rokeach test (Rokeach value survey) can be used in the framework of this issue, since it allows the rank-order scaling of development prospects in accordance with the value-semantic sphere of personality. On the other hand, the Rean questionnaire, which assesses the motivation to achieve success and the motivation to avoid failure, is hardly appropriate to use for solving the tasks, since the time of the questionnaire is quite long, and its value in building an individual development trajectory is not significant. Aptitude tests are a specially selected standardized set of tasks that serve to assess a person's potential ability to solve various tasks. The most popular aptitude tests are listed in figure 2. The Amthauer Intelligence Structure Test is designed to determine the ability of abstract thinking, memory, spatial thinking, language sense, mathematical thinking, judgment formation, and so on. The Guilford test measures social intelligence, which is a professionally important quality and can predict the success of teachers, psychologists, psychotherapists, journalists, managers, lawyers, investigators, doctors, politicians, and businessmen.

The Raven test allows using progressive matrices not only to assess the intelligence itself, but also makes it possible to get an idea of the employee's ability to systematic, methodical intellectual activity. Based on the description and purpose of aptitude tests, we can conclude that they are applicable for professional personality diagnostics for further building an individual development trajectory. At the same time, it is important to note that the above methods were initially developed for clinical psychology purposes, rather than for personnel assessment and are not adapted for professional development tasks. They do not establish a clear correlation between Personality – Competencies – Professions, and also do not take into account the impact of the digital economy on changes in the labour market (the emergence of new professions, modification and extinction of old professions, etc.). It seems a good idea to develop a method of remote professional diagnostics for the formation of an individual development trajectory based on modern requirements of the labour market. The effectiveness of the developed method will significantly increase if it is implemented using a digital platform with elements of artificial intelligence.

## 5. DIGITAL PLATFORM FOR PROFESSIONAL COMPETENCE DEVELOPMENT

The main purpose of the digital platform for professional competence development (hereinafter the platform) is an algorithmic interaction between participants of the platform, ensuring mutually beneficial relations, efficiency of the platform participants interaction, the significance of the number of the activity participants interacting on the platform, a common information environment, transaction costs reduction for the platform participants.

Figure 3 shows a simplified diagram of the platform's operation.

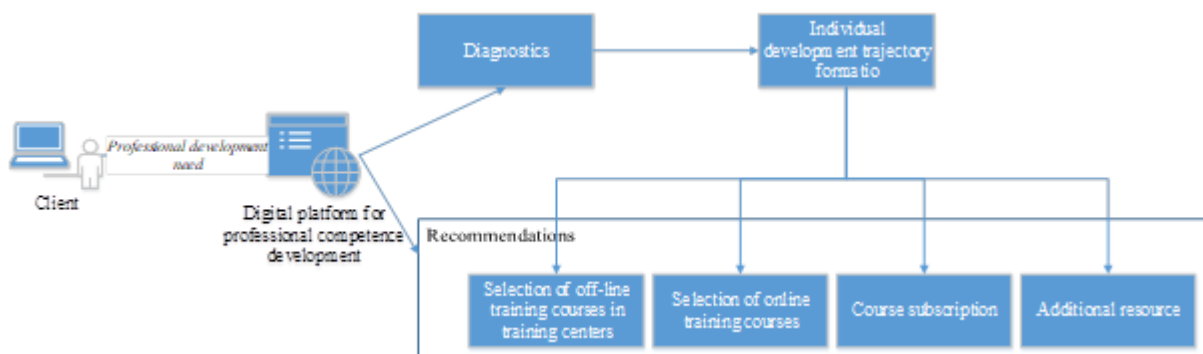


Figure 3: Simplified scheme of the digital platform for professional competence development functioning

The client accesses the platform via an Internet browser or mobile app and registers. After that, they can be professionally diagnosed and an individual development trajectory Profession – Competence – Work function – Recommended period of development will be created [8]. Further on, the user of the digital platform receives a list of off-line training courses in the city's training centers, online training courses, a subscription to various online and off-line training courses targeted at the full implementation of the individual development trajectory, as well as a list of additional resources (books, blogs, podcasts, movies, websites, etc.). In addition, if the user has a clear idea of what field they want to develop in, they can get recommendations without being diagnosed by selecting the field of professional interests from the classifier of professions.

## 6. CONCLUSION

On the one hand, the digital economy is changing and will keep changing the labour market and staff qualification requirements, on the other hand, an increasing number of employees are

subject to professional burnout being uncertain about their future and are thinking about changing their profession. A huge number of scattered information tools for training do not ensure the achievement of the desired result. The solution to these problems is the professional development of the employee within the individual development trajectory using a digital platform.

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## WHAT FACTORS AFFECT CUSTOMER SATISFACTION WITH POSTAL SERVICES?

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### **ABSTRACT**

*Nowday, it is characterized by the fact that customers require the provision of quality services by providers. Therefore, companies operating in the public or private sphere should constantly strive to maintain and improve the quality of their services and reflect on the needs and requirements of their customers. The national postal operator, which belongs to the services sector, should also follow this trend. Customer satisfaction with the services provided may be different for customers who use the services of the national postal operator in the city and for customers who use these services in the countryside. The aim of the paper is to compare the factors affecting the customers of the national postal operator in the Slovak Republic. The article used a multidimensional statistical method - factor analysis. Using factor analysis, it is possible to classify the individual attributes of the services provided by the national postal operator according to the perception of customer satisfaction with the services provided. The input data used in the factor analysis were obtained through primary research, which was carried out in cooperation with the national postal operator - Slovenská pošta a.s. These attributes, which were analyzed in the factor analysis, are classified into factors. Subsequently, the results of the factor analysis are sorted according to the value of significance of individual attributes. The analysis carried out should serve as a basis and at the same time provide information for the national postal operator to identify the services to be focused on in terms of satisfaction. The results show that in the countryside, customers are most satisfied with the behavior of employees at the post office and in the city with the behavior of postal delivery people. In both cases, customers are the least satisfied with the waiting time in line at the post office.*

**Keywords:** *Factor analysis, National postal operator, Quality, Satisfaction*

### **1. INTRODUCTION**

The term quality was defined in a way before our era. According to Aristotle, quality is defined as: „The sum of certain properties that distinguishes a given object from another, but similar in

meaning.<sup>1</sup> According to the Slovak Technical Standard, ISO 8402, quality is defined as the overall set of properties and features of a product, service, while the object acquires the ability to satisfy the specified anticipated needs.<sup>1</sup> It follows that it is from the definition of a certain level of service quality that is very important for the customer, namely the determination of his satisfaction with the services provided. In general, it can be argued that customer attitudes are influenced by a number of variables in consumer behavior, including customer satisfaction and brand loyalty.<sup>2</sup> In many cases, the creation of new postal products and services can be a complement to the quality of services. The new services have the task of creating the overall image of the postal company, which in this way tries to satisfy the needs of its customers as best as possible. The creation of new services can increase customer loyalty provided by the postal operator if it does so with the intention of providing better services.<sup>3</sup> Consequently, it follows that measuring customer satisfaction with the services provided is a prerequisite for improving and maintaining the business entity in the market in a competitive environment.<sup>4</sup> For this reason, we focused on conducting research on customer satisfaction with the services of the national postal operator in the Slovak Republic, which is Slovak Post. This national postal operator is a long-term provider of postal services that fall within the service sector within the national economy. This sector includes all types of services such as transport and storage, hotel and restaurant services, wholesale services, postal and telecommunications services, etc.<sup>4</sup> From the point of view of the national economy, the tertiary sector is the fastest growing sector and this also applies to the Slovak Republic. It is for this reason that the service sector is very important not only in the private but also in the public sphere. If we look at the specific provision of services within the Slovak Post, it should be noted that these services are provided within the public sector through a concentrated postal network, which allows the availability of postal services for all citizens in the Slovak Republic. Slovak Post provides approximately 70 services, which can be divided into 4 basic and 4 additional categories, which can be seen in table no. 1.<sup>5</sup>

<b>Four basic categories of services provided by Slovak Post</b>	<b>Four additional categories of services provided by Slovak Post</b>
Letter and parcel services	Express services within the Slovak Republic as well as abroad
Money services	Advertising services
Others – non postal services	Comprehensive logistics solutions
Sale of goods	Printing services, etc.

*Table 1: Categories of Slovak Post service  
(Source: Own processing)*

Within these categories, various postal services are provided for which it is necessary to monitor different quality attributes through which customer satisfaction with postal services is determined. Given that Slovenská Post is a provider of universal postal services and is the second largest employer in Slovakia, we must state that it is necessary to monitor customer satisfaction with these services every year.<sup>6</sup> For this reason, in the practical part of the scientific article, we performed a factor analysis through which it is necessary to compare selected quality factors that affect the satisfaction of Slovak Post customers.

## **2. METHODOLOGY**

The aim of the paper is to find out the differences between customer satisfaction of the national postal operator's customers in urban and rural areas (city vs village). The primary research was conducted among the customers of the national postal operator in the Slovak Republic. To determine the impact of the level of customer satisfaction a six-level Likert scale was used, where 0 = non satisfied and 5 = satisfied.

To fulfill this goal, factor analysis was performed, which deals with the relationships between variables and factor identification. Factor analysis is similar to the principal component analysis (PCA) method, as it is also designed to create new variables and reduce the size of the data with as little information loss as possible. To some extent, factor analysis can be considered as an extension of the analysis of the main components.<sup>7</sup> Unlike principal component analysis, whose main goal is to explain the maximum variability of the data, factor analysis tries to explain the correlation between variables.<sup>8</sup>

Factor analysis techniques can be divided into two groups:

- **Exploratory factor analysis** – with the help of the given analysis, the smallest possible but not fixed number of factors is sought, which would best describe the behaviour of the examined variables. The results of the exploratory factor analysis are ambiguous.<sup>8</sup>
- **Confirmatory factor analysis** is based on tests of hypotheses that the relationships between variables can be explained by a certain model of factors.<sup>8</sup> For the purposes of the paper, exploratory factor analysis through the PSPP program was used.

Factor analysis was performed in the following steps:

- 1) Identification of variables where the variables (attributes) were determined from the answers to the questions in the questionnaire.
- 2) Factor analysis – in this step, 2 factor analyzes were performed separately for customers in the city and separately for customers in the village. Open-source free software PSPP was used, in which the settings were changed: the covariance matrix was changed to correlation and a screen plot was used for graphical interpretation of the results. It is important to note that only factors greater than 1 were considered in the results. Subsequently, the rotation of the Varimax was chosen. This method has been used for better interpretation and wider application.
- 3) Factors interpretation
- 4) Value of significance

### 3. RESULTS

In the first part, the level of customer satisfaction of the National Postal Operator in cities was determined. Subsequently, the attributes listed in Table 2 were identified.

Variables	
Delivery time	Employee behavior
Waiting time in a row	Behavior of couriers
Distribution and availability of posts	Notified consignments
Opening hours	Providing information

*Table 2: Variables  
(Source: Own processing)*

Graphically, the number of factors can be represented using a graph using by screen plot. The screen plot contains eigenvalues that are sorted from highest to lowest on the Y-axis and factors on the X-axis. For this reason, the graph is shown as descending, but the rate of descent is different.<sup>8</sup> Both are shown in the figure 1 (on the left is shown screen plot for the city, on the right is screen plot shown for village).

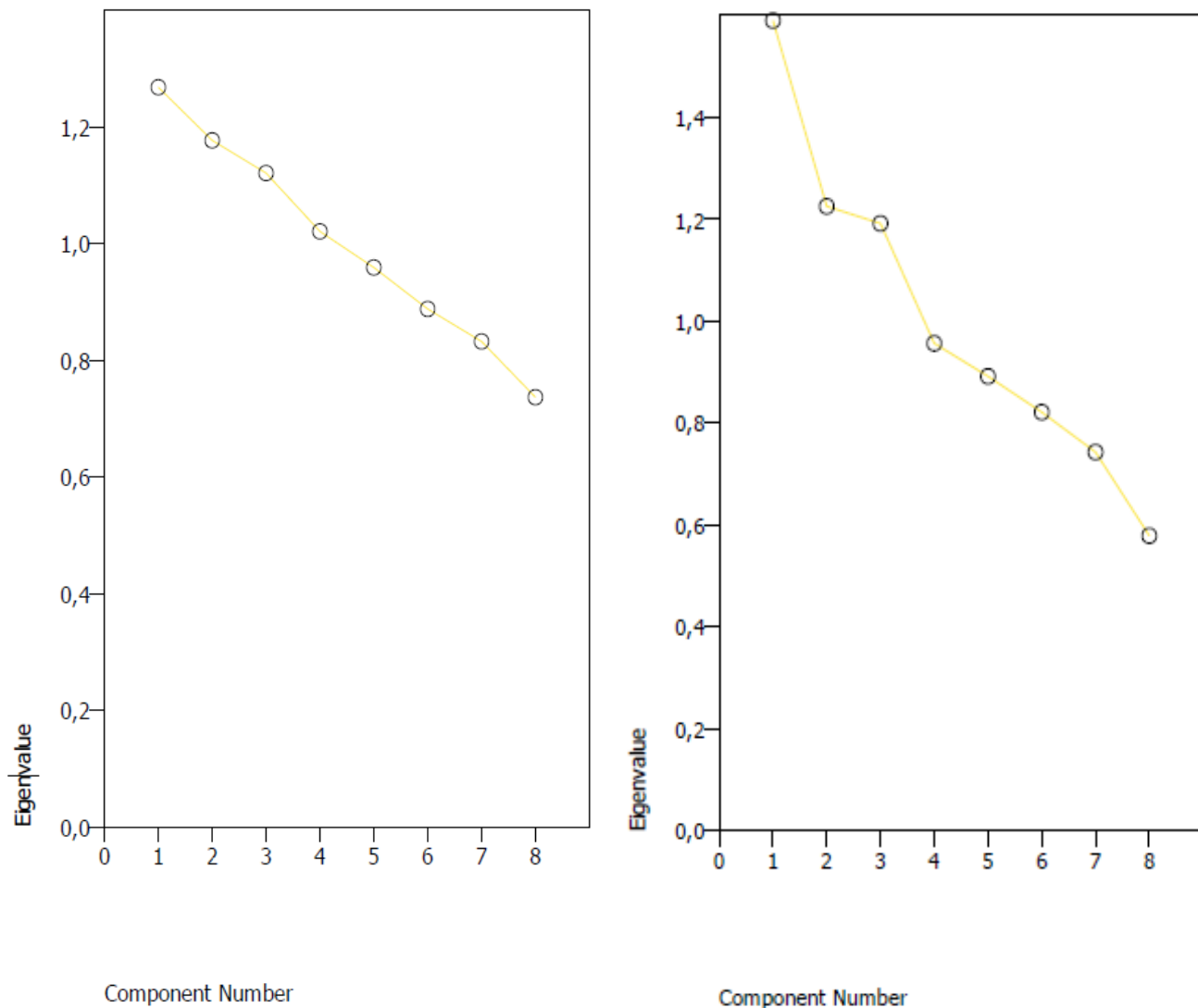


Figure 1: Comparison of screenplots – city vs village  
(Source: Own processing)

Screen plot shows all 8 variables and factors with values more than 1.

### 3.1. Factors of satisfaction customers in the city

In the second step, it was necessary to reduce the number of factors using factor analysis, which was performed using PSPP open-source software. Subsequently, all factors below 1 were excluded (Table 4). The software settings have been changed to Varimax, so that each variable fills only one factor, thus minimizing the number of variables that have a high charge.<sup>9</sup> The first factor is determined by a value of 1.27 and the last factor has a value of 1.02. These four factors make up 57.32% variability of all variables. Consequently, other percentages of variability explain these factors, which are relatively high. In the next step, a component matrix was compiled that shows the factor load, saturation for each question from the questionnaire.<sup>9</sup> The term factor load can be defined as the correlation of a particular factor with a particular variable. And this expresses the extent to which the variability of a particular variable is explained by a particular factor. This matrix is the main output of the factor analysis and indicates the identified factor and the root values between the identified factor 1 to 4 and the individual variables.

Component	Initial eigenvalues		
	Total	% of variance	Cumulative %
1	1.27	15.85	15.85
2	1.18	14.71	30.55
3	1.12	14.01	44.56
4	1.02	12.76	57.32
5	0.96	11.98	69.30
6	0.89	11.10	80.40
7	0.83	10.40	90.80
8	0.74	9.20	100.00

*Table 3: Total variance explained - city  
(Source: Own processing)*

In the next step, a factor rotation was performed, which is used to determine how the primary factors differ from each other and what variables are related to which factors. Varimax rotation was used for the given analysis for wider possibilities of use and simpler interpretation.

	Component			
	1	2	3	4
Delivery time	- 0.05	0.11	0.43	0.80
Waiting time in a row	0.05	0.84	0.12	- 0.26
Distribution and availability of posts	0.01	- 0.04	- 0.05	0.23
Opening hours	0.14	0.47	- 0.20	0.16
Employee behavior	0.97	0.16	0.02	0.00
Behavior of couriers	- 0.08	0.05	0.50	0.06
Notified consignments	0.12	- 0.02	0.67	- 0.33
Providing information	- 0,03	0.11	- 0.42	- 0.10

*Table 4: Rotated component matrix - city  
(Source: Own processing)*

- **Factor 1: Employee behavior.**

The first factor contains only one variable of 0.97. This factor includes the "employee behavior" attribute.

- **Factor 2: Time and information equipment of the operation.**

The second factor contains variables in the range of values from 0.11 to 0.84 and includes attributes such as "queue time", "workplace opening hours", and "information provision".

- **Factor 3: Services provided out of service.**

The third factor contains variables in the range of values from 0.50 to 0.67, and this factor is related to the "behavior of postal deliverers" and the "collection of postal items".

- **Factor 4: Place and time of provision of postal services.**

The fourth factor contains variables in the range of values from 0.23 to 0.83 and expresses attributes such as "delivery time", "distribution", and "availability of post offices".

The importance of each of the above attributes is listed in Table 5.

*Table following on the next page*

Attribute	City
Behavior of couriers	4.56
Providing information	4.51
Opening hours	4.51
Employee behavior	4.46
Distribution and availability of posts	4.43
Delivery time	4.20
Notified consignments	4.02
Waiting time in a row	2.95

*Table 5: Significance of variables - city  
(Source: Own processing)*

### 3.2. Factors of satisfaction customers in the village

The first factor is determined by a value of 1.59 and the last factor has a value of 1.19. These four factors make up 50,10% variability of all variables. Consequently, other percentages of variability explain these factors, which are relatively high. Also in this case, a component matrix was compiled, which shows the factor load, saturation for each question from the questionnaire.<sup>9</sup> In this case, 3 factors were identified (Table 6).

Component	Initial eigenvalues		
	Total	% of variance	Cumulative %
1	1.59	19.88	19.88
2	1.23	15.32	35.20
3	1.19	14.90	50.10
4	0.96	11.96	62.05
5	0.89	11.15	73.20
6	0.82	10.27	83.47
7	0.74	9.29	92.76
8	0.58	7.24	100.00

*Table 6: Total variance explained - village  
(Source: Own processing)*

As in the city analysis, factor rotation and Varimax method were performed. Results are showed in the Table 7.

	Component		
	1	2	3
Delivery time	0.04	0.02	0.48
Waiting time in a row	0.24	0.83	- 0.22
Distribution and availability of posts	0.46	0.01	- 0.39
Opening hours	- 0.02	- 0.22	- 0.04
Employee behavior	0.82	0.18	0.02
Behavior of couriers	0.01	0.43	0.54
Notified consignments	0.44	0.25	0.46
Providing information	0.15	0.15	- 0.51

*Table 7: Rotated component matrix - village  
(Source: Own processing)*

Attribute	Village
Employee behavior	4.34
Behavior of couriers	4.72
Providing information	4.56
Delivery time	4.22
Distribution and availability of posts	4.29
Opening hours	4.66
Notified consignments	4.14
Waiting time in a row	3.54

*Table 8: Significance of variables - village  
(Source: Own processing)*

- **Factor 1: Place and personnel capacities.**  
The first factor is determined by two attributes ranging from 0.46 to 0.82 and includes the attribute "location and availability of post offices" and "behavior of employees at the post office".
- **Factor 2: Time.**  
The second factor is defined by only one variable, namely "waiting time in a row" with a value of 0.83.
- **Factor 3: Satisfaction with the universal postal service.**  
The third factor contains variables ranging from 0.46 to 0.54 and relates to the basic assumptions of a properly provided universal postal service, namely "time of delivery", "behavior of postal couriers" and "notified consignments".

The analyzes showed that the opening hours are not decisive for a group of customers in the villages (Table 7).

#### 4. CONCLUSION

The results of the factor analysis show that the differences between the factors that affect customers in the cities and villages are little different. For customers in the city, the most important attribute of satisfaction is the behaviour of couriers, in villages, on the contrary, it is the behaviour of employees at the post office. Access to information and post office opening hours are also important for customers in the city. The results also show that the behaviour of employees is especially important for customers in villages. It can therefore be stated that the behaviour of the employees of the national postal operator is the most important factor in customer satisfaction. The biggest threat to the postal services sector today is the lack of manpower, especially in the field of postal operation.<sup>6</sup> It is important to note that only a satisfied employee can identify with the company and do their best work.<sup>10</sup> A similar study was also carried out by Madleňáková, Turská, Madleňák, who focused on the image of the postal company as a key attribute of the customer's shopping behaviour. They identified 13 factors influencing customers' shopping behaviour. Employees were identified as one of the key factors in purchasing behaviour with a significance value of 3.75, which was the highest value of these factors.<sup>11</sup> The findings of this survey confirm the finding that employees play a crucial role and are an important factor in the satisfaction of the national postal operator's customers. The results of the analysis can be the basis for the national postal operator, which, based on the results, can identify areas to focus on improving the quality of services provided.

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# EVOLUTION OF ECONOMIC INCENTIVES AND FUNCTIONAL CONSTRAINTS IN THE PROCESS OF COMPANY GROWTH AND DEVELOPMENT

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## ABSTRACT

*The article examines, through the Greiner-Kleiner model, the crisis transformation and the evolutionary process of the company development starting from small personalized companies to large multinational corporations. The relevance of this article is justified by the need to make decisions under the conditions of uncertainty and increasing risks, competition between companies during the crisis in the world economy in the context of the COVID-19 pandemic. The given model inevitably simplifies the object being modeled, since the development of the company is expressed through changes in its essence over time. In this article, the company essence is understood as its organizational and legal structure as one of the main economic agents. At the same time, this model reflects changes in the company economic interests and transaction costs at different stages of its development and under the influence of market conditions. It determines and interprets a set of economic incentives and functional restrictions for the development of companies, and analyzes the structure of external and internal relations depending on the stage of the company evolution. The model used for the analysis also provides an opportunity to assess the development of the company under the conditions of alternating economic growth and recession and its adaptation to changing market conditions. In particular, it can identify the main patterns of evolution of the company internal structure and intra-company relations, as well as assess its growing influence on the external and market environment. In addition, the article attempts to answer the question of how to determine the stage of the company development under the conditions of a systemic crisis and functional limitations, and suggest options for the transition to the next stage.*

**Keywords:** *transnational corporation, economic development model, economic incentives, transaction costs, company evolution*

## 1. INTRODUCTION

In modern economic science, the firm's evolution theory is considered from the standpoint of various directions. The most dynamic development received the neoinstitutional firm life cycle theory, in which this issue is considered from the perspective of the interaction of a firm in the national economy or TNCs in the world economy and the socio-economic system and the processes of their mutual influence on each other. The concept of transnational corporations and socio-economic systems co-existence previously considered by us [10, p. 183] allowed us to draw the main conclusions about the static state in the interaction of the studied objects. However, it should be born in mind that transnational corporations, being systemic phenomena, are the result of a long-term transformation of national companies, which can be illustrated by

the organization's life cycle, with a changing internal structure (contractual relations of owners, management and employees), and the market environment (suppliers, buyers, regulators, traditions, etc.). The reflection of the company's development through identifying the sequence of the company's essences over time is inevitably associated with simplification of the object being modeled, but it can display the dynamic state and interpret a set of incentives, external and internal relationships, depending on the stage of the evolutionary process.

## 2. OVERCOMING CRISES AT DIFFERENT STAGES OF THE COMPANY'S DEVELOPMENT WITH THE HELP OF INSTITUTIONAL ANALYSIS

Our analysis is based on the model developed by L. Greiner in 1972 and supplemented by G. Kleiner in 2010. This model of the company economic growth interpretation reflects the main forms of the company's organizational architecture, as well as establishes cause-and-effect relations of changes in the evolution process. The Greiner - Kleiner model is of our interest due to its contemporary perception of business development, as the alternation of economic growth of an organization and crises resulting from the mechanisms that accompany development, and reveals the main patterns of evolution of the internal structure of the company. In addition, we believe that it lays the foundation of answering the question about the essence of the systemic crisis - the last stage of the company's development, which Kleiner stopped at, and to offer an option for expanding it to the next transformational stage. Defining the abscissa and ordinate axes, Greiner identifies two parameters: "company size" and "company age" [6, p. 80]. The "age" parameter (X) reflects the period of time during which the organization emerges on the market and operates until its death. The "size" parameter (Y) is related to changes in the company's challenges as the organization expands (internal element structure expands) and sales increase (market power).

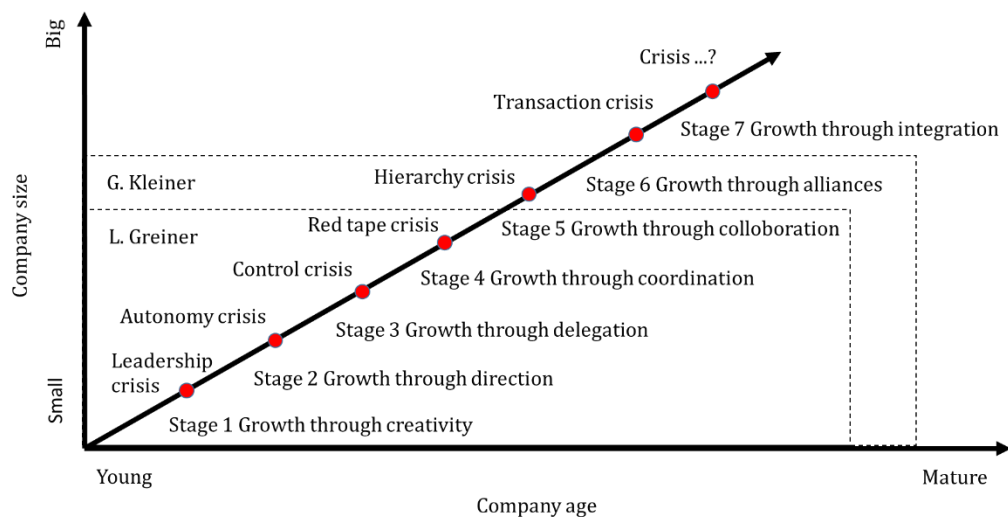


Figure 1: Model of the Greiner-Kleiner company evolution with additions (compiled according to [6, p. 82; 8, p. 321])

Greiner notes five stages of the company development, determined by the age and size of the organization. The development of the company consistently alternates with the crisis of the form of company existence at the given stage of the evolutionary process, and we see it as an institutional trap, to escape from this trap the transformation of inefficient institutions in the new conditions and the transition to the next stage of development is needed. The beginning of the crisis is associated with the accumulation of contradictions in the management model, changes in the market environment, and is a natural stage of the company maturation and its

increasing economic power. Kleiner points out that "...the mechanisms that allow overcoming the crisis bare the prerequisites for the next one and gradually turning into its cause" [8, p.305]. At the stage when the company emerges, it is seen as an innovator in terms of the product and the market. For better understanding of this case, we will give an example from the work of J. Galbraith [4, p. 26], referring to a brochure of the US Department of Commerce, where the case of a small private company is illustrated by a lemonade stand. This business is controlled and managed by the owner and manager in one person, the company has no or almost no capital and complex technostructure, and intra-company relations are not burdened with formal and ties trade unions. Employees of the company are committed to the idea of its creation, and their activities meet market demand, having a stable feedback channel that allows them to instantly adapt to changes in the market environment and market conditions. As the company grows and matures, its managers need specialized knowledge of the efficiency of production and sales. The increased internal personnel structure cannot be managed solely by informal communications, since employees are not motivated by the entrepreneur's commitment to the idea. This leads to the first crisis, which is the beginning of the first transformational process. The way out of the first crisis, according to Greiner, is to build up the management body and attract specialized labour resources with experience, knowledge, skills and standards of behaviour for further business development [6, p. 83]. Companies that have overcome the first stage are moving to a new organizational structure that deepens the division of labour, specializes the workforce, specifies products and introduces quality standards. The need to improve the efficiency of the company's activities requires imperative planning, formalization of internal environment communications and the introduction of an organizational hierarchy. Imperative methods make it possible to make better use of limited resources and control processes and procedures. However, with the growth and complexity of the business system, including an increase in the asymmetry of information coming from the bottom up in the organizational hierarchy, and an increase in the value of competencies (experience and knowledge) at the employee level, imperative methods inevitably lose their productivity and marginal utility. Limited rationality and the inability of the management to deeply understand every production procedure leads to a crisis of decision-making autonomy at the lower levels of the organizational hierarchy. The crisis can be overcome through delegating part of the management functions to the lower levels of the company hierarchy. The transformation is accompanied with the increasing responsibility of enterprises, their motivations, and communications from the top down with the purpose of strategic control. Moving along the determination lines of the time and company size at the third stage leads to a highly diversified economic activity of the company, with local management decisions, which over time contributes to the loss of manageability, localism, and the implementation of opportunistic aspirations outside the plans of the central management. The crisis of control is accompanied with the restoration of the influence of managers on the entire company as a whole. Greiner notes [6, p. 85] that the return to the imperative management system usually fails, due to a wide variety of operations, a certain concentration of capital, and technical solutions at the company level. In this case, the crisis can be overcome and the firm can enter a new phase of evolution only by using new methods of coordination. The fourth stage is characterized by increasing coordination of activities, when divisions merge into divisional groups, indicative planning is used, and the staff that administers the company's performance targets increases, with elements of the internal environment. At the same time, certain technical functions are centralized, while operational decision-making remains decentralized. Thus, the company achieves growth by better allocating the authority, streamlining and accountability of internal elements. Over time, the costs of controlling the growing system begin to exceed the benefits, and under these conditions a "red tape crisis" occurs [6, p. 86].

The "red tape crisis" can be overcome by intensifying interpersonal and inter-company cooperation. Thus, the transformation is based on a behavioural approach, with an emphasis on solving problems by team actions using matrix-type organizational structures. Information systems are integrated into decision-making processes, the company is in a permanent state of increasing its efficiency, optimizing production processes and reducing the asymmetry of internal and market information with various verification tools. The crisis of the fifth stage of the evolution occurs in a large company built on the basis of semi-autonomous economic units, which has accumulated significant experience in market functioning, has a wide range of commercial connections and a significant number of employed labour resources compared to previous stages. Analyzing the causes of crisis features and growing contradictions, Kleiner rightly considers large corporations that find it much more difficult to adapt to the changing external environment and change their internal structure [8, p. 308-309]. The conditions in which business operates at the fifth evolutionary stage are related to the tightening of the regulatory environment, the complexity of technologies, changes in the means of communication, expansion into the markets of different countries, the mobility of factors of production and their availability outside national borders. G. Kleiner correlates the fifth stage with the discrepancies in the company hierarchy. The crisis manifests itself in business operation constraints imposed on the hierarchical model, that is, in increasing the inertia and lower flexibility of the company due to a large number of specialized units, decision making by a large number of participants in corporate relations, avoiding the competition. The solution to the hierarchy crisis is to change the organizational and managerial status of a company through 1) creating a network of autonomous enterprises, where each business unit or division acts as a separate enterprise within the overall management system, and 2) expanding interactions with the external environment [8, p. 312]. Thus, the structural decomposition through the development of an internal market and inter-company coalitions, while forming the infrastructure for interaction between participants and managing joint actions by the parent company, leads to a new organizational architecture. The hierarchy crisis is overcome through the establishment of complex alliances of internal and external companies that interact on the principles of cooperation, outsourcing, and building relationships on a contractual basis.

### **3. TNC' ORGANIZATIONAL STRUCTURE OF AND ITS CHANGES IN IT INFLUENCED BY INTERACTION WITH OTHER AGENTS**

Corporations that overcome such crisis of the Greiner-Kleiner model at the sixth stage of development represent large multi-industry complexes with a complex system and organizational form, supply, production, sales, research and other economic units. Modern conditions for the mobility of the production factors, scientific and technological progress, the formation of geo-economic integrated spaces, and the desire of business to increase efficiency have led to the expansion of corporations to foreign markets and the establishment of a new institution of capitalist economy – transnational business. It connects the parent company, subsidiaries and dependent units, through a single ownership or in other forms, within the framework of a common decision-making system that builds common approaches to the interaction with the external environment, and transmits formal and informal rules of the internal environment functioning from the parent company to subsidiaries and dependent units. To identify the crisis of the sixth stage, based on cooperation, we formulate a model for the functioning of firms through the supply chain of goods and information exchange.

*Figure following on the next page*

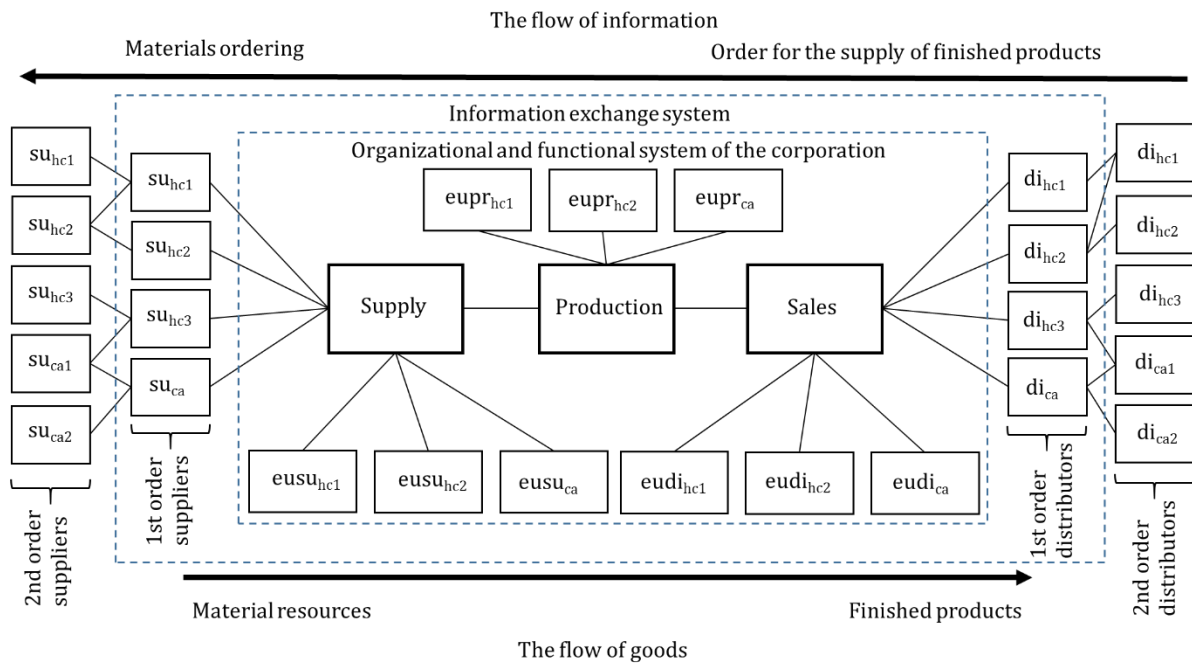


Figure 2: Model of the goods, works, services flows and information flow of transnational business (compiled by the authors)

Figure 2 shows the flow of goods and information exchange that is typical for a multinational business, where  $su_i^n$  is the national ( $hc$ ) and foreign ( $ca$ ) supplier of the  $n$ -order,  $di_i^n$  is sales networks, and  $eusu_i$ ,  $eupr_i$ ,  $eudi_i$  is economic units (department, division, division or independent company) within the corporate structure. According to Kleiner, the tool for building inter-company relations is the formation of alliances and organizational networks, i.e. the establishment of commercial ties with elements of the external environment, including on the basis of outsourcing. The use of these mechanisms facilitates the more efficient use of the company limited resources, directing them to the most efficient companies to perform individual operations, attract specialists with scarce knowledge, skills, etc. The sustainability of the supply chain and relationships with contractors who have outsourced part of the process is extremely important and is connected with the conclusion of contracts between economic agents. Organizations, evolving from the simplest forms of personalized exchange in the first phase of development, when participants are strictly identified, make the same transactions and are able to identify behavioural codes of each other, at the sixth stage of development have an exchange, characterized by D. North as "complicated interdependence, in which the welfare of individual actors depends on the individual's specialization, a variety of technical, operational and behavioral attitudes of agents, and the processes of supply, production and sale of goods and services have a temporal and spatial extent" [12, p. 70-71]. The availability of numerous suppliers of raw materials, finished products or services, including foreign ones, is always associated with additional costs for qualitative and quantitative control of the consumed good. As a result, the risks associated with 1st order suppliers are minimized with verification tools. The supplier's reliability and integrity can be determined using formal or informal methods. The formal assessment is based on: 1) a system of trial orders, 2) the use of specialized agencies, 3) substantial analysis (technical and production capabilities, etc.). Informal methods involve the assessment of management as a part of the organizational hierarchy responsible for making decisions. However, it should be noted that verification mechanisms do ensure the reliability forecast of the supplier or contractor neither before nor after the conclusion of the contract, but can either objectively or subjectively exclude obviously unreliable companies from business interests.

Harmonizing and streamlining contractual relationships between suppliers and buyers, in order to ensure adaptability and continuity of their relationships in large corporations, becomes an economic asset. As a result, submitting a part of sustainable production process to outsourcing causes an increase in the transaction costs of contracting and the manifestation of opportunistic behaviour of the transaction participants. To improve the reliability of supply chain the following measures are needed: requirements for reserve stock, the use of interchangeable resources, allocation of supply by dividing orders or conclusion of pending deliveries contracts [14, p. 107]. In addition to supplying the corporate structure, firms delegate sales to external companies. Speaking of transnational business, it can be noted that divisions of the supply, production or sales processes can be located in different countries. The customer service criteria for a manufacturer, when the sales function is outsourced, are: stock availability (no probability of shortage, satisfaction of current demand, etc.), functionality of sales networks (order execution speed, reliability and flexibility of deliveries), territorial convenience (rational location) [14, p. 108]. Verification mechanisms in a market economy can partially reduce the costs of contracting when choosing suppliers or sales networks of the 1st order and do not affect suppliers and sales of the 2nd order, i.e. the firm consuming the good cannot control the production of this good and the resources that are supplied to its seller. Thus, at the sixth stage of the firm's evolution, transaction costs will be higher than in previous periods, since there are problems both with measuring the characteristics of the exchange and motivation of counterparties, and with concluding, maintaining and controlling contracts. This leads to an increase in the total uncertainty, discounting future income at a higher rate and reducing of the planning horizon. A tool for reducing uncertainty is the creation of complex institutional structures within the corporation that limit or minimize losses from Coasian type transaction costs, but require additional explicit and hidden costs for their activities and maintenance. Formal and informal institutions guarantee that the certain expectations of agents are met and the certain values that they expect are obtained [13, p. 102]. The costs of identifying, evaluating, and implementing measures to minimize external transaction costs entail the need to compare the marginal gain from control or supervision efforts with the accompanying increase in internal costs. Thus, the corporation falls into an institutional trap - an inefficient established norm that has a self-supporting character, manifested in a decrease in the marginal income from economic growth. There is a multiple increase in the Coasian type transaction costs, which in turn serve as the basis for expanding the company's bureaucracy, which reduces the bottom line, which in its turn reduces the owners' dividends and investment programs, leading to stagnation and economic development slowdown. The function for increasing transaction costs can be displayed as:

$$f(C) = A \times \frac{N^\alpha \times S^\beta}{I^\gamma} \quad (1)$$

where,  $f(C)$  is a function of changes in Coasian type transaction costs;  $A$  – coefficient of proportionality, measured in unit costs;  $N$  – number of economic agents (actors) in the goods and services supply chain;  $S$  – the degree of specificity involved in the good as the object of contractual relations;  $I$  – the number of formal and informal institutions involved in the contracting process;  $\alpha, \beta, \gamma$  – the elasticity coefficient of the use of actors, goods, formal and informal institutions.

As can be seen, the increase in external transaction costs is proportionate to the increase in the number of contractors and the specificity of the product that accompanies the economic growth of the firm, and inversely proportionate to the number of formal and informal institutions that accompany the contracting operations.

Thus, the transaction crisis is a natural result of the sixth stage of firm development in the Greiner-Kleiner model, due to the wide cooperation of companies with firms in the external environment. The transaction crisis restricts economic development, on the one hand, as a result of the uncontrolled growth of contracting costs and opportunistic behaviour of firms in the supply chain, and, on the other hand, the growing costs of the company's bureaucracy and the establishment and maintenance of extra institutions. Overcoming the crisis of increasing external transaction costs is possible by replacing the market relations of counterparties with a system of management of economic relations.

#### **4. MAIN FEATURES OF MERGERS' TRANSACTIONS IN RUSSIAN AND WORLD ECONOMIES**

Progressive economic growth and the maturation of the firm, encouraged by increased efficiency in the use of foreign markets, contributed to the formation of transnational companies (TNCs). TNCs are characterized by integration of elements of the external environment (suppliers, contractors, distributors, etc.) through mergers and/or acquisitions (M&A). Integration of elements of the external environment into the internal environment leads to the possibility of regulating the growth of costs, building rational and controlled supply chains, resources release and a new organizational architecture. In the works of neoinstitutional economists, an increase in external transaction costs (of the Coasian type) is considered as characteristic of the firm's growth, an increase in contracts with external agents. Integration into a single management basis, reducing external costs, leads to an increase in internal ones that limit effective growth and development [1, p. 9; 16, p. 138]. In large corporations, internal production is preferred to purchases from external firms, so the transfer price system distorts the market incentives of economic agents, which ultimately reduces the efficiency of production and management decisions. To overcome the challenges of administrative planning a competitive environment develops in the internal corporate relations of TNCs that does not allow the entire corporate system to stagnate. The relations of firms within a corporation form a market for factors of production, social capital, and the results of production activities. There may also be serious institutional contradictions associated with the lack of necessary correspondences in the system of motivation and incentive of hired labour, opportunistic behaviour of employees at all levels, etc. [3, 2]. However, competitive intracompany markets help to overcome the main shortcomings of administrative management mechanisms, and move to the competition of competencies, i.e. the struggle for spheres of influence and assets within the corporation. O. Williamson believes that in the conditions of regularly repeated transactions with a large number of semi-finished products and highly specific products, integration is more preferable for companies than a system of market contract relations [16, p. 162]. In the study of M&A factors, Thuy Vu Nga Hoang and Kamolrat Lapumnuaypon, give broad interpretation and description of this phenomenon [7, p. 3-5]: mergers are commonly referred to as "merger by absorption" or "merger by establishment". In the first case, one company buys all the shares of another company, as a result, the second company ceases to exist ( $A + B = A$ ), whereas merger by establishment refers to the case where two or more firms are merged into a newly created one ( $A + B = C$ ). The category of "absorption" includes, depending on the subject, acquisition of assets or acquisitions of shares. The range of motives for integrating firms through M&A are [5, p. 117]: the desire for economic growth (expansion of sales markets), increasing profits by reducing costs (economies of scale), the ability to access scarce factors of production (capital, labour, knowledge, etc.) and the use of the synergistic effect of replacing contractual relations of cooperation. The motives of M&A also include internalization of inter-firm and inter-industry transaction costs, as part of the use of a synergistic effect, since integration leads to the release of financial resources invested in further development, and strengthening the position of the integrated company in the market [9].

The synergistic effect of M&A is considered in detail by McKinsey on the example of the integration of two firms [11, p. 13]. In this example, before the transformation stage, the companies received revenue from the synergetic effect of cooperation in the amount of \$ 0.8 billion. Having overcome the transformation and reinvested the funds released due to optimization and simplification of procedures, the companies received a 75% increase in revenue from the synergistic effect of integration. This example is not the only possible scenario, we consider it an exception rather than a rule, since the integration of companies under a single basis is a complex process, aggravated in addition to financial, legal, tax and organizational aspects, by the struggle of interest groups within the firms. In his research, Kleiner concludes that Russian organizations are also characterized by cyclical development [8, p.324], but we believe that in Russia cyclical development has certain features inherent in the economies of catch-up development and post-socialist countries. The conceptual difference is the starting point, i.e., but for the existence of newly established firms, the Russian business environment is characterized by the presence of companies resulting from foreign investment of both tangible and intangible assets, and firms emerged as a result of privatization of state property.

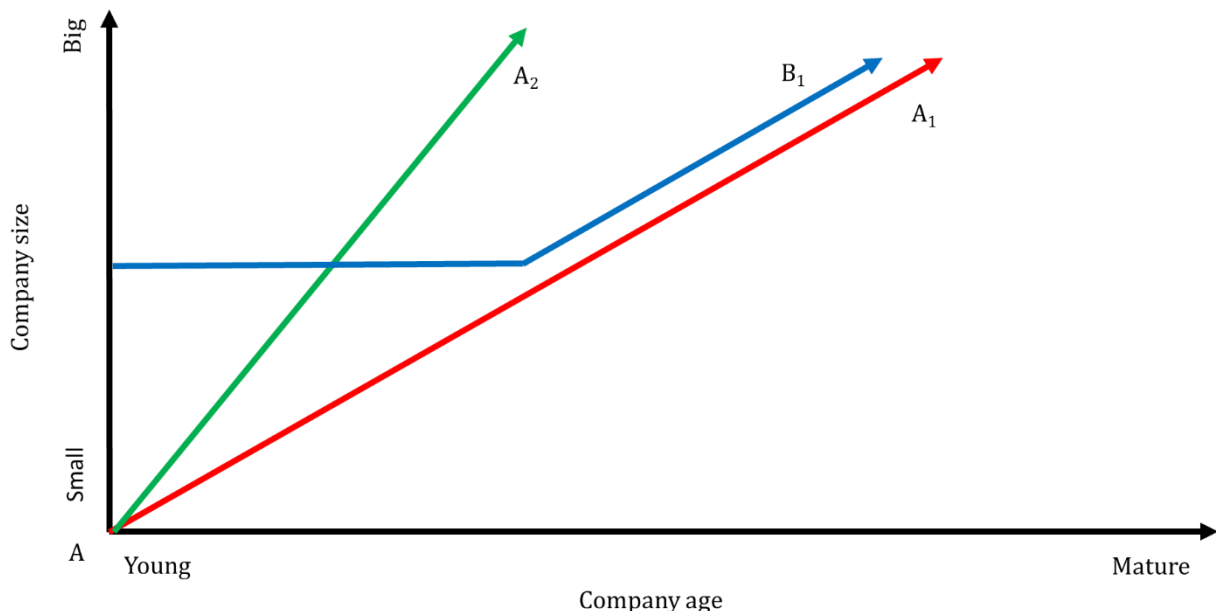


Figure 3: Development trajectories of Russian enterprises (compiled by the authors)

Figure 3 shows the possible development trajectories of Russian companies. Companies on the line AA<sub>1</sub> are the firms described by the Greiner-Kleiner model, developed as a newly created business, by a public or private investor, and corresponding to cyclical development trends. Companies on the line AA<sub>2</sub> are the firms which emerged and developed as a result of capital technology and labour resources transfer by foreign investors, including economic units of foreign corporations in the Russian market. Firms AA<sub>1</sub> and AA<sub>2</sub> start at point A, but their subsequent growth trajectories differ due to different growth bases, i.e. a foreign investor transfers to its satellite a certain operating model, material and non-material resources, including the experience accumulated by the parent company and internal institutions. The line BB<sub>1</sub> shows privatized companies that have entered the market economy with a certain set of assets, competencies, suppliers and buyers, and a resource base. The sequential shift along the determination line in figure 1 to the right reflects the transformation of the organizational and functional architecture of the firm. Based on the Greiner-Kleiner model, it can be noted that starting as a personalized firm with an informal management model, the organization is forced



to transform, overcoming institutional crises, into other forms that correspond to the scale of the internal structure and the external environment, requiring restrictions or changes in old norms. The duration of the evolutionary cycle, the speed of economic growth and maturation depend on the pace of development of the socio-economic functioning system, the market environment and the industries in which the company operates.

## 5. CONCLUSION

The crisis of the sixth stage of the company development, based on cooperation, seems to be the consequence of the growth of transaction costs of contracting and opportunistic behaviour of economic agents. It is possible to overcome the transaction crisis by internalizing the transaction costs of the unmanaged external environment into the costs of the planned internal structure. This makes it possible to use limited resources more efficiently, optimize processes, and contribute to the corporation's economic growth. At the last stage of development we have noted, the company is an integrated set of semi-autonomous business units located in different countries, using foreign factors of production and the most competitive rules and regulations of national economies. Modern multinational corporations coordinate in their internal structure the centralization of individual management functions and the organization of an internal market that encourages competition for spheres of influence, resources and knowledge within the corporation.

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## **PATH OF A READING PROJECT IN COLLABORATIVE WORK BETWEEN SCHOOL AND FAMILY**

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### **ABSTRACT**

*Globally, the acquisition and development of reading skills is at the top of the priorities of educational policies, as a means of communication and access to knowledge and social inclusion. In Portugal, the transversal nature of the domain of reading runs through curricular programs, as the basis of scientific, technical and technological knowledge. Thus, the general objective of this study is to analyse the results of the implementation of a multidisciplinary reading project, involving collaborative work between school and family, in improving the reading competence of students in the 1st Cycle of Basic Education. This is a case study, with a predominantly qualitative approach, carried out in a public school in the district of Porto, in which 25 students, 25 parents / guardians and 2 teachers participated, in a total of 52 participants. The data collection tools include records of the Project's collaborative journey, according to the National Reading Plan, student reading registration grids, teachers' reports and a questionnaire survey of parents/guardians. The results allow us to conclude that the completion of the Project reinforced the improvement of reading skills, in terms of fluency and reading comprehension of the participating students and the involvement of parents, with the addition of reading activities in a family environment. In general, there was a consolidation of reading habits of students and their families and more frequency in the school library. However, despite the very positive appreciation of the Project by the participants, it is necessary to bear in mind that the construction of a proficient reader is not punctual, but implies a process throughout life, so it is necessary to insist on motivating and innovative activities that promote reading in collaborative school-family work.*

**Keywords:** *1st Cycle of Basic Education, Pluridisciplinary project, Reading competence, School and Family*

### **1. INTRODUCTION**

Education for all is one of the priorities of the 21st century, as mentioned in the Agenda 2030 goals for sustainable development (United Nations, 2015, p. 17). "Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all"; (...) 4.1. By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy". In this understanding, reading and literacy can ensure access to knowledge throughout life, fostering the personal and professional development of all

individuals. Therefore, it is fundamental that children and young people have access to an inclusive and differentiated Education, based on values of citizenship, proper of a democratic society (Teodoro, 2020). At the national level, the development of reading skills of Portuguese students is a priority of educational policies for this century, ensuring their integration as a cross-curricular competence in all subjects and the implementation since 2006 of the National Reading Plan (2020). In this understanding, reading emerges as a condition for school success and social equity, essential to the full performance of citizenship. Without reading, it is not possible to have access to information, culture and scientific knowledge and to exercise active citizenship. As stated by Arne Carlsen, from the UNESCO Institute for Lifelong Learning, in the foreword to “Examples of dynamic literate environments” (Hanemann & Krolak, 2017, p. 7), “advancing a culture of reading, writing and learning should be part of all literacy and lifelong learning strategies (...) (as) successful strategies towards a culture of reading, writing and learning in the family, community or wider society. The examples reflect different contexts, such as families (and) libraries.” In this sense, it is interesting to carry out more research on projects developed in schools, since the beginning of education, in collaborative work between school and family, which focus on building a fluent and critical reader. These are the foundations of the study that is presented, in relation to a Project of multidisciplinary reading, carried out in the 1st Cycle of Basic Education.

## **2. FROM THE NATIONAL READING PLAN TO MULTIDISCIPLINARY PROJECTS IN SCHOOLS**

The National Reading Plan emerged in response to the low levels of literacy among Portuguese students, confirmed by the first PISA studies. The creation of the National Reading Plan (Portugal, 2006, p. 4857), with an initial duration of ten years, had the purpose of raising the literacy levels of the Portuguese, fulfilling a set of specific objectives, among which "to promote reading, assuming it as a factor of individual development and collective progress; (...) to inventory and value pedagogical practices and other activities that stimulate the pleasure of reading among children, young people and adults; (...) to achieve gradually more favourable results in national and international studies of literacy evaluation". The National Reading Plan has driven positive action in schools, since the early years of schooling, consolidating the training of the reader through the application of motivation and reading comprehension strategies, in order to develop lifelong reading habits (Miller & Kelley, 2013). “The concept of learning, particularly the concept of lifelong learning, has expanded the perception of reading literacy (...) as a set of knowledge, skills and strategies that individuals build on throughout life in various contexts, through interaction with their peers and the wider community” (OECD, 2018, p.27). In PISA tests, in which Portugal has always participated, there was gradually a positive evolution in literacy results (OECD, 2019, 2016; 2012; Rosa, Sampaio Maia, Mascarenhas & Teodoro 2020). However, it is necessary to continue to overcome the lack of commitment on the part of students in adolescence, with some young people considering literary works only a school obligation, resisting individual reading. The results of the last triennial survey PISA 2018, in what concerns proficiency in reading of 15-year-old portuguese students (OECD, 2019, p. 2), show that “in Portugal, 80% of students attained at least Level 2 proficiency in reading (...). At a minimum, these students can identify the main idea in a text of moderate length, find information (...) and can reflect on the purpose and form of texts when explicitly directed to do so.” However, “socio-economically advantaged students outperformed disadvantaged students in reading by 95 score points in PISA 2018”, while in “PISA 2009 this gap was 87 score points in Portugal” (Idem, p. 4). In addition, Portugal continues to show a high retention rate in the first years of schooling, as confirmed by a national study involving 3,866 public schools with 1st Cycle of Basic Education (Serrão & Mata, 2018). In order to strengthen the development of students as proficient readers, according to OECD studies and

guidelines, the National Reading Plan entered a new phase for 2017-2027. As explained in the new Strategic Framework (Portugal & National Reading Plan, 2017, p. 7), the priority is to "consolidate and expand this public policy and align it with the national qualification strategy of Portuguese society (...) in order to face the broad set of challenges that currently condition and determine the act of reading and writing". Starting from a heritage of ten years, until 2027 was contemplated a greater scope and inclusion, with regard to the "globality of individuals and audiences: child, youth and adult", "multiple partners and institutions, national and international" and transversality of "multiple literacy". In line with OECD studies, the development of reading skills and habits now considers readers interaction "with multiple continuous and non-continuous texts both in print and when using digital technologies", in the extension of the concept of reading literacy initiated in PISA 2012 (OECD, 2018, p.27). Thus, at global and local levels, efforts are being made to collaboratively involve schools, families and libraries in the purpose of raising literacy and reading levels as a strategy for integral child development. This collaborative work in the educational community (Molina & López, 2019) is essential to train young readers, linking the teaching and learning process and the implementation of projects, with the action of school libraries and the participation of families. Regarding the teaching and learning process, the teacher must motivate, guide and evaluate the activities, considering that to read is to understand, decode information and unveil the meanings of the text (Pearson & Cervetti, 2017; Sim-Sim, 2009). In the Program and curriculum goals of the Portuguese subject is indicated "an explicit opening to literature for children and young people, since the 1st Cycle of Basic Education, through the works of the National Reading Plan, or other proposals" (Buescu, Morais, Rocha & Magalhães, 2015, p.8), linking curriculum subjects. The improvement of orality, reading and writing skills implies an inter and multidisciplinary work, preferably in project work. At this level of education, the projects are mainly in the Portuguese subject, focusing on reading and writing, or in Study of the Environment, with the same tendency, in different countries, to increase project work covering the family and the environment (OECD, 2018; Schleicher, 2019). As far as family participation is concerned, the first phase begins in childhood, corresponding to an "emerging or early literacy," centered on the development of language, "the reading, writing, listening, speaking and thinking that develop simultaneously and in an interrelated way, right from the first years of life and in real contexts of each child" (Resende & Figueiredo, 2018, p. 103). The first actors involved are the parents, since narrating or reading short stories in the family contributes to the development of the child's taste for reading and listening from an early age, confirming the important role of parents in the learning of the mother tongue and in the educational success of their children. The work of reading and decoding the written word should be reinforced in pre-school education and in the 1st Cycle of Basic Education, privileging the fluency of reading and exploration of texts that are part of the childhood universe (Ouelette, Martin-Chang, Rossi, 2017; Duffy, 2014; Kuhn, 2008). Therefore, it is important that the teacher considers the previous knowledge of his students, based on the influence of the family context, as a determining factor of linguistic development. Finally, the action of libraries in schools is highlighted. Currently, the tradition of class libraries, with the exchange of literary works between students, is crossed with the multimodal use of school libraries, through the availability of digital resources, according to the guidelines of the School Libraries Network (2020). The Program, available on the respective website, has the "objective of installing and developing libraries in public schools of all levels of education, making available to users the resources necessary for reading and the use and production of information in analog, electronic and digital support". In this sense, the school library constitutes a valuable resource of the work developed in schools, in collaboration with teachers of all subject areas.

### 3. STUDY METHODOLOGY

This study was based on the difficulties found in the field of the mother tongue, in several curricular subjects, in the context of a public school in the district of Porto. Thus, a multidisciplinary project was planned, "Leituras em Família" (Readings in Family), implemented in a 3rd grade class of the 1st Cycle of Basic Education, in order to improve transversal reading skills and school results, in collaborative work between school and family. It is a case study, with a predominantly qualitative approach, combining qualitative and quantitative data. It is interesting to analyse a contextualized social reality, responding to the "how" and "why", and incorporating the subjective view of the researcher (Yin, 2013). In seeking the transformation and improvement of practices and institutions, the case study has proved to be a preferential methodology in Education, providing an in-depth examination of a particular context (Coimbra & Martins, 2014). The general objective of the study is to analyse the results of the implementation of a multidisciplinary reading project, involving collaborative work between school and family, in improving the reading competence of students in the 1st Cycle of Basic Education. Our study totals 52 participants, being 25 students from a 3rd grade class, 25 parents/guardians and 2 teachers from a public school. As data collection tools, on the one hand we enumerate the students' reading fluency recording grid, with quantitative analysis at the starting and ending point of the Project and also the questionnaire to parents/guardians of education, with statistical analysis. On the other hand, there are the field notes of the class teacher, which made possible the descriptive analysis of the collaborative path of the Project. Regarding the class teacher's speech and that of the librarian teacher, it was applied a "descriptive coding" (Lichtman, 2013) to the content of an interview and a written report, using theory to guide the analysis, as well as the categories derived from the text. As Tashakkori and Cresswell (2007) suggest, triangulation of different types of qualitative and quantitative analysis techniques strengthens the case for the quality of the research.

### 4. ANALYSIS AND DISCUSSION OF RESULTS

#### 4.1. Analysis of the collaborative path of the "Readings in Family" Project

Based on the class teacher's field notes, it is possible to see that the "Readings in Family" Project aims to motivate students, improve reading competence and contribute to overcoming failure in the 1st Cycle. Considering the diagnostic evaluation made previously, in the domains of orality, reading and writing, a multidisciplinary Reading Project was planned, in which the students and the teacher of a 3rd grade class, the teacher of the school library and the parents/guardians of the students participated. The work selected for this Project was "The Treasure Ark, a musical tale" by Vieira & Carrapatoso (2015). It is one of the works recommended by the National Reading Plan and the Portuguese Curriculum Program and Goals (Buescu et al., 2015), for students from the 3rd year onwards. This story aims to involve families in improving fluency and creating students' reading habits, focusing on the strength of words in the family, at school or elsewhere. The story calls for parents to reflect on the attitudes of a family without time for dialogue. This family includes a grandmother who helps Mary live joyful moments even when the parents have no time for their daughter. One day, the grandmother offers her granddaughter a blue box, which she calls "the treasure chest," so that Mary can keep all the words she wants to say or misses, including good and bad, beautiful and ugly, nice and unkind words, Vieira & Carrapatoso (2015). In conjunction with the library, the class teacher previously met with parents / guardians, presenting the project and the advantages of collaborative work. Before the beginning of the readings, in class and with the family, the reading fluency of the students was carried out, in order to record the starting point of the Project. The content of the story was worked on in a multidisciplinary way, complying with the Curricular Program and Goals (Buescu et al., 2015). In the Portuguese subject, and in conjunction with the school library, multidisciplinary strategies were implemented, which

involved oral and written retelling, dialogue reading, reading comprehension, illustration of textual segments, writing of individual texts, collective rewriting of the story, dramatization and construction of a cartoon. As for Mathematics, statements of problems were elaborated, to be solved by the students, integrating characters or moments of the action. In Study of the Environment, the identification of the state of time, present in the story, made it possible to study the stars and carry out experiments with light. In turn, in Artistic Expressions, students did Dramatic Expression activities, with voice exploration and dramatization of history, while in Musical Education, body and instrumental percussion was performed, with musical instruments created from residues, from bottles of yogurt and plastic boxes. In Plastic Expression, in addition to illustrating segments of the text, students built characters with plasticine and reusable materials and scenic objects for the play. Finally, in Citizenship, the environmental dimension was worked on, appealing to sustainability, through the reuse of resources, and also the human dimension, analysing behaviours and attitudes of different generations, including grandparents, parents, children and grandchildren, according to the message of the short story. To finish, following the same process of the first assessment of reading fluency, the reading of the excerpts was repeated in the second assessment. The records of reading fluency enriched the analysis and triangulation of the data, regarding the improvement of the reading competence of the participating students and the results achieved with the realization of the Project.

#### 4.2. Analysis of students' reading fluency

Before the beginning of the Project, to assess reading fluency, the students read, individually and out loud, a text from the work "The Treasure Ark, a musical tale" (Vieira & Carrapatoso, 2015). Applying a differentiated pedagogy in the classroom, three excerpts from this work were selected, with different numbers of words, so that all students would feel capable of carrying out the task. Thus, a small group of students read an excerpt of the text with 55 words, while another read 90 words and the rest were able to reach 110 words. Although all students attend the 3rd grade, the acquisition and application of knowledge does not happen equally or simultaneously. The reading was recorded on audio, timed and subject to self-evaluation by the student and hetero evaluation by the teacher, who recorded on a grid the duration and fluency of reading of the students in the class. At the end of the year, this activity was repeated, with the same literary excerpt, as shown in the following table.

Excerpts from "The Treasure Ark, a musical tale"	Number of students assessed	
	Assessment - 1st reading	Assessment - 2nd reading
Text 1 - 55 words per minute*	8	4
Text 2 - 90 words per minute*	9	10
Text 3 - 110 words per minute*	8	11
Total	25 alunos	25 alunos

*Table 1: Reading fluency in the 3rd year at the start and end point*

The parameters of the assessment of the reading fluency, at the starting and end point, covered: (i) speed (reading in 1 minute or less); (ii) accuracy (absence of errors in reading decoding) and (iii) prosody (cadence, intonation and rhythm), as referenced in the Portuguese Curriculum Program and Goals (Buescu et al., 2015). The progression of the reading speed should be 55 words per minute in the 1st year, 90 in the 2nd, 110 in the 3rd and 125 in the 4th year. In addition, the student must read the text with correct articulation and intonation, especially from the 3rd grade on (Idem, pp. 54 and 59). Thus, in the 1st assessment, 8 students read text 1 with 55 words, corresponding to reading fluency at the end of the 1st grade; 9 students read text 2

with 90 words, corresponding to the end of the 2nd grade, and 8 students read text 3 with 110 words, reaching the level of reading fluency foreseen for the 3rd grade. Comparing the two moments of assessment of reading fluency, a very positive evolution can be observed. Thus, the number of students who read Text 1 decreased from 8 to 4 (minus 4 students with reading proficiency at grade 1 level); the number of students who read Text 2 increased from 9 to 10 (+ 1 student with reading proficiency at grade 2 level); the number of students who read Text 3 increased from 8 to 11 (+3 students with reading proficiency equivalent to grade 3). These data show progress in students' reading proficiency after participation in the "Readings in Family" Project. Overall, comparing the starting and ending points, there were improvements in the three items evaluated (speed, accuracy and prosody), which demonstrates the acquisition of significant reading skills (Ouelette et al., 2017; Kuhn, 2008).

### 4.3. Analysis of teachers' discourse

The descriptive analysis of the speech of the two teachers involved in the achievement of the Project, combined the transcription of a semi-structured interview, made to the teacher of the 3rd grade class, with the report of the teacher who coordinates the school library. Both cooperated in the "Readings in Family" Project, in the class selected for the case study. As mentioned in the methodology, categories were considered that come from the literature review, but also others emerging from the teachers' discourse, with a thematic codification made from the analysis of the semantic content of the discourse (Lichtman, 2013). Thus, in the following descriptive analysis four categories were considered: (1) importance of reading; (2) improvement of reading in collaborative work between school and family; (3) relevance of a multidisciplinary reading project in the 1st cycle and (4) lifelong reading learning, from now on teachers will be called T1 (class teacher) and T2 (school library teacher). Regarding the first category, the importance of reading, there is agreement between the perceptions of T1, *"reading is the basis of knowledge, in relation to the domains of orality and writing, so it is an essential competence for life in society"* and T2, *"the school library and school must insist on the importance of reading as a means of information, intellectual and cultural enrichment, and entertainment"*. Reinforcing this idea, T1 adds *"different ways of reading, such as reading for pleasure and reading for knowledge"*. Thus, reading competence should be worked on systematically in the classroom, in collaboration with the school library and also with the family, through common activities. In the second category, improving reading in collaborative work between school and family, the words of the teachers prove a path of collaboration, no longer closed at school, but open to the family:

**T1:** *"The family is the first environment of socialization, because the child learns to speak in the family environment, the development of the language begins in the family, in all domains: orality, reading and writing. (...) therefore the formation of the student reader also begins in the family, for example when he hears a story told by his parents or grandparents (...) the collaboration between the school and the family is fundamental for the formation of the student reader (...) and the development and educational success of the students"*.

**T2:** *"The school library and the school should (...) raise awareness of collaborative work, seeking partnerships, so that, inside or outside the school, meetings with diverse readings are promoted in different spaces and times, (...) also the participation of the family is fundamental in the creation of reading habits in the students (...) reading should assume a prominent position within the family, since the family is the first social structure with which the child makes contact"*.



The teachers' perceptions coincide with the advantages of improving reading in collaborative work between school and family. Both refer that the time and place of the beginning of the learning of the mother tongue is in the family, covering orality, reading and writing (T1) and providing the creation of reading habits since childhood (T2 and T1). As an example, it is mentioned the hearing of stories in the family environment, narrated by parents or grandparents (T1), is mentioned, as *"reading should assume a prominent position within the family"* (T2). For this reason, and with very similar expressions, the teachers designate the family as *"the first socialization environment"* (T1) and *"the first social structure with which the child contacts"* (T2). Regarding the family, the school library teacher also explains that:

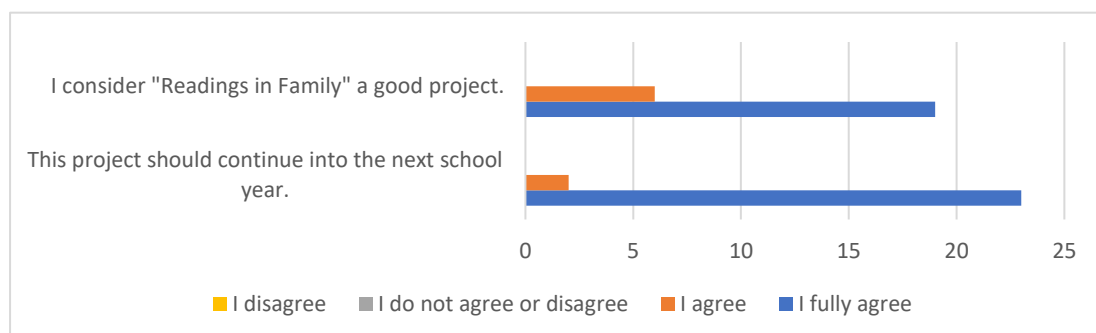
**T2:** *"With this family reading project, it was intended to contribute to a greater enthusiasm for reading and knowledge sharing between parents and children, encouraging parents and children to have time to read and share moments at home, awakening the love and pleasure for reading (...) making parents mediators of reading and (...) contributing to the formation of young autonomous and competent readers and (...) more school success". (...)*  
*The fact that each child can see his parents reading (...) gives him the opportunity to understand the role and importance of reading in his life and in the world, having more possibilities to build his personality as a future reader".*

The teacher highlights "the enthusiasm of reading" of "The Treasure Ark, a musical tale", *"making parents mediators of reading"*, in moments of sharing and learning, essential to the construction of the *"future reader"* *"autonomous and competent"* and basis of *"school success"*. This opinion of T2 agrees with the theories and studies cited in the literature review, which value the family as a privileged learning space since childhood and a factor of school success (Resende & Figueiredo, 2018; Haneman & Krolak, 2017). Thus, regarding the improvement of reading competence, the teachers consider that the collaborative work between school and family, developed during the collaboration in the Project "Readings in Family", was the basis of the students' progress in the mastery of language. In the third category, the relevance of a multidisciplinary reading project in the 1st cycle, it is noted that it crosses several subjects. The teacher of the class mentions that *"the project linked different subjects, by the transversality of language and reading (...), and had the collaboration of the library (...) was important, because the mastery of oral and written language is the basis of school success"* (T1). As previously mentioned, the Curriculum Program and Goals (Buescu et al., 2015) advocates collaborative and multidisciplinary classroom practices, highlighting the benefits of school projects. In this case, and according to the analysis carried out previously, the collaborative path of the Project "Readings in Family" is highlighted the participation of different subjects and stakeholders, for the training of the reader since childhood. In this understanding, the perceptions of teachers coincide with studies cited in the literature review (OECD, 2018; 2016; Serrão & Mata, 2018). In the fourth and last category, lifelong reading learning, the teachers considered the continuity of Language learning and, inherently, they also considered the continuity of this Project. This is an emerging category of the teachers' discourse, concerning future perspectives, related to reading, the Project and the school. In the opinion of the library teacher, the realization of the Project *"gave the first positive steps, having been an added value for the promotion of reading", so it should continue, with "teachers who are committed to the work and who are willing to get involved (...) in an innovative work on reading, carried out in collaboration between school, library and family"*. The collaboration, in the context of the school library, made possible the operationalization of specific tasks: *"Support materials were made available for the development of the project, which encouraged reading and the taste for books (...)"* (T2). Regarding the library's actions, the loan of literary works for family and school reading, including digital resources, namely e-book, stands out.

The same idea is expressed by the class teacher, since *"the students used computers and internet in the library, in research for the Project and in text writing"* (T1). Thus, as for the operation of the library, the guidelines in force (School Libraries Network, 2020) were met, as referenced in the literature review, which was an added value for students and their families. In general, the Project was evaluated positively, especially the collaborative work developed between school, library and family, regarding the relationship between the transversality of reading and the lifelong training of the reader, as an equitable condition of access to knowledge and school success of the student.

#### 4.4. Analysis of the survey by questionnaire to parents/guardians of Education

The parents' opinion about the "Readings in Family" Project was requested through the application of a short questionnaire, with 5 questions, that all 25 parents/guardians filled out. Questions 1 and 2 in the questionnaire were directed to the reading and profile of the student readers, while questions 3 and 4 focused on the implementation of the "Readings in Family" Project, followed by an open question for further reflection on the experience lived by families. Most attributed importance to the acquisition of reading competence by their children, highlighting 21 who agree and fully agree that reading means "understanding the text read" and "relating experiences and other readings". Regarding their children as readers, the contrast between two profiles emerges, with an indication of 21 children who like and read frequently, while 4 children do not read with correction and do not understand what they read, in the opinion of the respondents. These data allow us to conclude that the majority of the parents/guardians value the importance of the child mastering reading since childhood, as a basis for "knowledge acquisition" and "writing improvement", leading to "educational success. Triangulating these results with the analyses already made, it can be seen that the opinion of the parents/teachers is similar, in the understanding that proficiency in reading is the basis of school success and personal and social development of children and young people. Regarding the results of the implementation of the Project "Readings in Family", all respondents (25) agree and fully agree that "the Project has contributed to moments of sharing between parents and children". Almost all agree and fully agree that: "the activities improved reading skills" (24); "my student showed enthusiasm in "Readings in Family" (24); "the materials were motivating and adequate", "I would like to see more "Readings in Family" activities" (23) and "this Project connected the School and the Family" (23). As for the Project having "linked several subjects and the school library," 19 parents/guardians agree and fully agree. The analysis of the data allows us to infer that the Project "Readings in Family" had a positive impact on the families of the students involved. In fact, the selection of the work "The Treasure Ark, a musical tale" encouraged moments of sharing, boosting the improvement of reading fluency, confirmed through the comparative analysis of two moments of assessment, carried out at the time of the beginning and at the end of the Project. In the last open question, parents / guardians, made the final evaluation of the Project as shown in the graph.



Graph 1: Evaluation of the Project by parents / guardians

In the final evaluation of the Project, all the parents/guardians considered "Readings in Family" a good Project, to maintain in the following school years, coinciding with the opinion of the teachers, of continuing a learning process that is built up through schooling and life. As one of the respondents explained: "Everyone at home loved the idea, they participated. We parents, grandparents and older siblings found time for reading, stealing time from television and gaining time for family life". These results are in line with the norms and the experts in this area, regarding more reading and literacy, through projects and activities between school and family (Buescu, 2015; Hanemann, & Krolak, 2017; OECD, 2019). The partnership of multiple actors contributes to more educational quality and the improvement of reading, as an essential competence of knowledge and citizenship.

## 5. CONCLUSION

The study proved the path of a reading project in collaborative work between school and family, in the view of students, teachers and parents / guardians. Although the nature of the case study does not allow for immediate generalization of results, it is possible to transpose them into similar contexts, using analysis techniques that strengthen the research. The research highlighted the sociolinguistic importance of the transversality of reading, so the mastery of reading fluency and comprehension constitutes one of the priorities of the educational systems of all countries, at global and local levels. This implies the realization of multidisciplinary reading projects from the 1st Cycle, following the guidelines of the National Reading Plan, which points to a path of lifelong improvement of reading skills, aiming at the formation of a proficient reader and a citizen capable of using Language not only for communication, but also for research, information, knowledge and the pleasure of reading and listening to reading. The study also concluded that the promotion and improvement of reading crosses several stakeholders and environments, in the classroom, library and family. Therefore, the collaborative work between students and teachers should include the participation of parents/guardians, in a cooperative relationship that values the participation of all. In fact, both systems, school and family, compete for more effectiveness, success and quality of teaching and learning, as recognized by the intervenient. In addition, it is worth mentioning the action of the school library in the scope of achieving the reading Project. From a multimodal perspective, electronic and digital resources were made available to students. Given the problem of different opportunities in access and use of technologies, which emerged with great visibility due to the COVID-19 pandemic, it is essential that teachers, who promote reading projects in schools, take into account the constraints experienced by many students and pay attention to pedagogical differentiation as a strategy to overcome difficulties in reading and achieve educational success. In this sense, the study proved that it is possible to overcome inequalities in access to reading and culture by "socio-economically disadvantaged students" (OECD, 2019), achieving better school results in the 1st Cycle through a more inclusive, equitable and democratic Education.

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# ON THE USE OF NEURAL NETWORKS FOR STOCK PRICE FORECASTING

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## **ABSTRACT**

*Having the ability to predict the price of a particular stock share is undoubtedly a major challenge, because of the complexity and implied volatility of the financial markets. This is a topic of great interest to researchers and market players, as the effectiveness of the forecast might translate into huge monetary gains. This work aims to demonstrate the use of neural networks for stock price forecasting. Two financial titles are considered: Microsoft and Apple. The initial choice of the predictor variables comprises the most used and referenced in the scientific papers published on this subject. This work demonstrates the importance of a careful selection of some of those variables for a good neural network performance.*

**Keywords:** *Financial markets, neural networks, stock share, variable selection*

## **1. INTRODUCTION**

Mankind has always had the desire to foresee the future. Is it possible to forecast a stock price? This is a complex problem, as markets are characterized by their dynamic nature and unpredictability and fluctuate quickly in very short periods (Nigam, 2018). The political climate, the trading wars between countries and several other factors, namely economic, make it difficult to invest with a low risk using only fundamental and technical analysis. Trading on the stock market uses different methodologies for price forecasting and machine learning techniques, which include artificial neural networks, are the most used for this purpose (García et al., 2018). Over the past few decades, neural networks have been widely used in the business area, namely in supporting decision making. Having confidence in a decision support system has become an essential factor for companies and neural networks have advantages when compared to more traditional models, particularly in situations where the data are complex and the phenomena non-linear (Tkác & Verner, 2016). Their learning capacity and their parallel and hierarchical structure are two essential characteristics for solving problems that could not otherwise be solved (Cortez and Neves, 2000). There are several studies referring to the use of neural networks with applications in areas such as auditing, accounting, consumer behavior, foreign exchange markets and financial bankruptcy (see (Tkác & Verner, 2016) and references therein). Lately, financial analysts, managers and researchers have shown interest in the technical analysis of stock prices using neural networks, as they have the ability to recognize hidden indications of when the stock price will rise or fall (Nigam, 2018). For instance, Zahedi et al. (2015) developed several models with accounting variables to forecast Tehran Stock Exchange prices. The authors concluded that neural networks are superior to other models and that they are able to accurately forecast stock prices. Muntaser et al. (2017) applied neural networks to forecast the price of three shares in the oil and gas sector of BM&FBOVESPA. In their study, they used variables related to the stock price, moving averages, bollinger bands, volume, Momentum (MOM) and the Relative Strength Index (RSI), among others, and concluded that the networks are good in forecasting the price. Qiu and Song (2016) used a neural network to predict the Nikkei 225 index, which is the most widely used market index on

the Tokyo stock exchange. In their study, they used several variables, including moving averages, volume and RSI. Finally, García et al. (2018) used neural networks to forecast the German DAX-30 index. Their results demonstrate that, the greater the number of variables in neural models, the greater the "noise" in the learning process and the worse the performance of the models in terms of forecasting new cases. They created models with different variables, where they used either all the indicators or only 2, 3, 5 and 10 indicators, demonstrating how important it is to correctly select the variables for an effective forecast. This work aims to demonstrate the use of neural networks for stock price forecasting. Based on the information available in one week, we provide a forecast for the next week. Two financial titles are considered: Microsoft and Apple. In our literature review, we found that the predictor variables, *i.e.*, the information used to forecast a stock price, vary a lot from study to study. Furthermore, we concluded that considering more variables doesn't necessarily lead to better forecasting results. For this reason, it is important to select a part of the available variables in order to obtain the best results and, in this context, many authors use a trial and error approach. In this work, we compare two automated variable selection procedures. In the first one, the predictor variables are all the available variables that are not strongly correlated, *i.e.*, that provide independent information for stock price forecasting. In the second procedure, we quantify the importance of all available variables for the forecasting models developed and, using an iterative process, we successively exclude the least important. As far as we know, this second procedure with the measure of importance we considered was never tested in a context of stock price forecasting. The remainder of this paper is organized as follows. Section 2 briefly presents the fundamental and technical analysis usually considered by investors in their investment decisions. Next, Section 3 describes the neural networks used in this work, Section 4 the data we collected and Section 5 our methodology in what concerns developing, evaluating, selecting and applying neural forecasting models. Finally, Section 6 shows our results for the Microsoft and Apple titles and Section 7 presents the conclusions and future work.

## **2. FUNDAMENTAL AND TECHNICAL ANALYSIS**

Investors base their investment decision on fundamental and technical analysis. The latter does not deny the usefulness of the former, but gives it little importance, because a price is formed based on the information that reaches the market and which encompasses all the data, expectations, moods and perceptions of the investors (Matos, 2005). Here, we consider short term price forecasting, since our goal is to forecast from one week to the next one. In our literature review, we found that there are few works using fundamental analysis indicators for this type of forecasting (see, for instance, (Koolia et al., 2018; Zahedi et al., 2015)) and that most works use technical analysis indicators (see, for instance, (A. A. Adebisi, 2012; García et al., 2018; Muntaser et al., 2017; Nandakumar et al., 2018; Qiu and Song, 2016)).

### **2.1. Fundamental analysis**

Fundamental analysis includes the study of economy in general, the relationship of the capital market, the sectors of activity and finally the companies. This analysis aims to know the real value of shares, the so-called intrinsic value, in order to determine whether it is low or high, triggering buy and sell orders according to the price. While analysing a company, investors make use of indicators such as the Return on Equity (ROE) and the Price Earnings Ratio (PER) (Matos, 2005; Neves, 2012).

### **2.2. Technical analysis**

Technical analysis has the ability to forecast future movements using statistical resources for that purpose. It allows the investor to identify trends and patterns through the formation of prices, thus grounding a correct preference decision (Silva and Nunes, 2017). The decline and

rise in the share price are related to certain performance indicators. The most common are the opening price, the closing price, the lowest and the highest prices and the volume of shares traded in the reference period (Nandakumar et al., 2018). Technical analysis uses the graphical representation of price movements over time to observe increases and decreases and when they happen. It is in this monitoring that the buying and selling movements of a certain stock are decided. There are many useful and common tools in price analysis to identify trends. Some of the most used by investors are the Simple Moving Average (SMA), the Exponential Moving Average (EMA), MOM and RSI (Silva and Nunes, 2017).

### 3. NEURAL NETWORKS

Here, we consider multilayer feedforward neural networks (Haykin, 2009; Silva and Alonso, 2020). Let  $x_1, \dots, x_n$  be the  $n$  inputs and  $y^{net}$  the only output of a multilayer feedforward neural network with one hidden layer of  $m$  neurons, as shown in Figure 1.

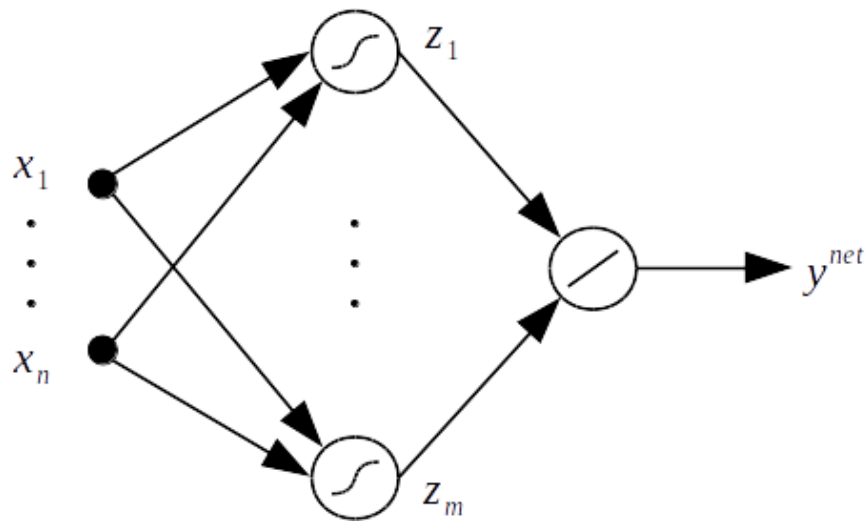


Figure 1: Multilayer feedforward neural network  
(Source: The authors)

The neurons in the input layer do not process data and serve only to forward it to the neurons in the next layer. The neurons in the hidden layer have a sigmoid activation function, namely the hyperbolic tangent. The output of the  $i$  – th hidden neuron is given by:

$$z_i = g(x_1, \dots, x_n | w_{i1}, \dots, w_{in}, w_{i0}) = \tanh \left( \sum_{j=1}^n w_{ij} x_j + w_{i0} \right), \quad i = 1, \dots, m,$$

where  $w_{ij}$  is the weight of the connection from the  $j$  – th input neuron, with  $j = 1, \dots, n$ , to the  $i$  – th hidden neuron and  $w_{i0}$  is a weight called the bias of the  $i$  – th hidden neuron. The neuron in the output layer has a linear activation function, namely the identity. Its output is given by

$$y^{net} = h(z_1, \dots, z_m | w_1, \dots, w_m, w_0) = \sum_{i=1}^m w_i z_i + w_0,$$

where  $w_i$  is the weight of the connection from the  $i$  – th hidden neuron, with  $i = 1, \dots, m$ , to the output neuron and  $w_0$  is a weight called the bias of the output neuron.



Hence, the neural network implements a function

$$y^{net} = f(x_1, \dots, x_n | m, \mathbf{w}) = \sum_{i=1}^m w_i \tanh \left( \sum_{j=1}^n w_{ij} x_j + w_{i0} \right) + w_0,$$

parameterized in  $m$ , the number of hidden neurons, and  $\mathbf{w}$ , the vector of the  $m(n+2)+1$  network weights. The values of these parameters can be determined as explained next. Suppose that the data available to determine the values of the neural network parameters,  $m$  and  $\mathbf{w}$ , are split into two sets: a training set

$$T = \left\{ (x_1^{(T,l)}, \dots, x_n^{(T,l)}; y^{(T,l)}) \right\}_{l=1}^{n_T},$$

with  $n_T$  cases, where  $y^{(T,l)}$  is the desired output of the network for the input  $(x_1^{(T,l)}, \dots, x_n^{(T,l)})$ , and a validation set

$$V = \left\{ (x_1^{(V,l)}, \dots, x_n^{(V,l)}; y^{(V,l)}) \right\}_{l=1}^{n_V},$$

with  $n_V$  cases, where  $y^{(V,l)}$  is the desired output of the network for the input  $(x_1^{(V,l)}, \dots, x_n^{(V,l)})$ .

Define the training error as

$$E_T(m, \mathbf{w}) = \sum_{l=1}^{n_T} \left( y^{(T,l)} - f(x_1^{(T,l)}, \dots, x_n^{(T,l)} | m, \mathbf{w}) \right)^2$$

and the validation error as

$$E_V(m, \mathbf{w}) = \sum_{l=1}^{n_V} \left( y^{(V,l)} - f(x_1^{(V,l)}, \dots, x_n^{(V,l)} | m, \mathbf{w}) \right)^2.$$

Fixing  $m = k$ , for a certain  $k \in \mathbb{Z}^+$ , let  $\mathbf{w} = \mathbf{w}^{(k)}$  represent a solution to the non-linear least squares problem

$$\min_{\mathbf{w}} E_T(m = k, \mathbf{w}),$$

found by applying a suitable optimization algorithm, like Levenberg-Marquardt's (Rao, 2009). The sequence of the training errors  $E_T(m = 1, \mathbf{w} = \mathbf{w}^{(1)})$ ,  $E_T(m = 2, \mathbf{w} = \mathbf{w}^{(2)})$ , ... tends to decrease with  $m$ , which is a measure of the network complexity (the higher the value of  $m$ , the greater the network complexity). In turn, the sequence of the validation errors  $E_V(m = 1, \mathbf{w} = \mathbf{w}^{(1)})$ ,  $E_V(m = 2, \mathbf{w} = \mathbf{w}^{(2)})$ , ... tends to decrease until a certain value of  $m$ , say  $m = k^*$ , and then starts to increase. In this context, we take  $m = k^*$  and  $\mathbf{w} = \mathbf{w}^{(k^*)}$  for the neural network parameters.

#### 4. DATA

This work aims to demonstrate the application of neural networks for stock price forecasting. The titles selected were the shares of Microsoft and Apple. The choice was due to the fact that they belong to the important technology sector, although other titles from other sectors could have been selected. The problem consists in using neural networks to forecast the price of the financial stocks in a week, based on information about those stocks and the market in the previous week. In this context, it is important to decide on what information should be considered, that is, which predictor variables can provide the best forecasting results. The selection of these variables is not easy. Literature review revealed that researchers don't have a generalized method to select predictor variables. Thus, our decision was to select a set of variables considered in most studies, namely variables related to price, investor sentiments and accounting variables. We collected weekly data from January 8, 2010 to March 8, 2019. Price related data and technical indicators considered in this work were collected through Alphavantage and Yahoo. Sentiments related data were extracted through an Investor Sentiment Survey indicator in Quandl. The indicator measures the percentage of individual investors considered as optimistic, pessimistic or neutral in relation to their market decisions. These feelings were obtained through the American Association of Individual Investors, an independent, non-profit association created with the aim of helping individual investors to become more efficient in managing their own assets. Remark that investor sentiments have been increasingly considered by investors and researchers. Therefore, it becomes important to establish a link between the individual behavior of investors expressed in feelings and the market dynamics. A simple post on a social network can influence the financial market. Thus, the research and measurement of these feelings and the integration of sentiment analysis methods are extremely important in the financial markets (Maknickiene et al., 2018). The variables in Table 1 are the ones we have selected in this work.

Variable nature	Microsoft	Apple
Investor sentiment	<i>Bearish</i>	<i>Bearish</i>
	<i>Bullish</i>	<i>Bullish</i>
	<i>Neutral</i>	<i>Neutral</i>
Accounting	<i>ROE</i>	<i>ROE</i>
Price	<i>Close</i>	<i>Close</i>
	<i>Open</i>	<i>Open</i>
	<i>High</i>	<i>High</i>
	<i>Low</i>	<i>Low</i>
		<i>Stock Split</i>
Technical indicators	<i>EMA 15</i>	<i>EMA 15</i>
	<i>EMA 200</i>	<i>EMA 200</i>
	<i>MOM_15</i>	<i>MOM_15</i>
	<i>MOM 200</i>	<i>MOM 200</i>
	<i>RSI 15</i>	<i>RSI 15</i>
	<i>RSI_200</i>	<i>RSI_200</i>
	<i>SMA 15</i>	<i>SMA 15</i>
	<i>SMA 200</i>	<i>SMA 200</i>
Index	<i>Volume</i>	<i>Volume</i>
	<i>Close index</i>	<i>Close index</i>

*Table 1: Variables by nature/company  
(Source: The authors)*

The stock split variable was introduced to signal the sharp and sudden drop in price seen only in the Apple title. The values given to this variable were: 1 in the week in which the fall occurred; 0 in the others. As far as we know, no other study has predicted the price of a share including this variable.

## 5. DEVELOPMENT, EVALUATION, SELECTION AND APPLICATION OF FORECASTING MODELS

Given that different variables have values with different orders of magnitude, we started by transforming the data so that all variables would have an average of 0 and a standard deviation of 1. Then, the data were split into three distinct parts: training, validation and test. For a set of predictor variables, the training and validation data were used to determine the weights of the connections between neurons and the number of neurons in the hidden layer. The idea is that, at the end of the training and validation processes, the network parameters are such that the neural model is estimated to have the best forecasting ability with the predictor variables considered. Finally, the obtained network was applied to the test data, with the goal of evaluating its performance when it comes to forecasting cases that were not “seen” before. The number of training cases must be as large as possible and representative of the population (Cortez and Neves, 2000). Thus, the data used for training correspond to the years 2010 to 2016 (weeks 1 to 365), representing 76% of the available cases, the validation data to the year 2017 (weeks 366 to 417) and, finally, the test data to the year 2018 and part of 2019 (weeks 418 to 480). The evaluation of the neural networks was carried out using two performance measures. The first one was the mean absolute percentage error (MAPE), defined as

$$MAPE = \frac{1}{n} \sum_{i=1}^n \left| \frac{P_i - \hat{P}_i}{P_i} \right| \times 100\%,$$

where  $P_i$  represents the title price in week  $i$  of  $n$  considered and  $\hat{P}_i$  the forecast provided by the network for that price. The second measure was the hit rate in the price direction, corresponding to the percentage of cases of  $n$  considered in which the network correctly predicted a price decrease, maintenance or increase. Finally, the selection of the predictor variables was made according to the following. In a first approach, we started by considering all available variables as predictor variables and, in order to eliminate redundant information, we kept only those that are not strongly correlated, that is, among which Pearson’s correlation coefficient is, in module, less than 0.9 (Pestana and Gageiro, 2014). In a second approach, we implemented an iterative process that starts by considering all variables initially available for predictor variables and that, in each iteration, quantifies the importance of the variables to the trained network, leaving for the next iteration only the most relevant ones, with which a new network is trained. The importance of the variables was calculated as in (Alonso and Loureiro, 2015). The software used in all computational experiments was MatLab.

## 6. RESULTS

In the first approach to the selection of the predictor variables, we obtained the correlation matrix between all available variables and excluded the ones that were strongly correlated with the remaining. Thus, we selected 8 variables for the Microsoft title and 13 for the Apple title. For each title, networks with 1, 2, etc. hidden neurons were trained and validated. The training error tended to decrease with an increase in the number of neurons. We stopped training and validating when we verified that the validation error did not improve with an increase in the number of neurons. Thus, the optimal number of hidden neurons was chosen to be the one leading to the least validation error. Finally, the optimal network was applied to the test data. As we can see from Table 2, in the test set, the forecasting error was better for Microsoft (3.5% against 10.3% for Apple), but the hit rate in price direction was worse (38.7% against 53.2% for Apple).

Stock	Network	Mean absolute percentage error (%)			Hit rate in price direction (%)		
		Training	Validation	Test	Training	Validation	Test
Microsoft	8-1-1	2.2651	1.586	3.4734	58.1267	45.098	38.7097
Apple	13-1-1	3.0677	4.7122	10.2820	50.1377	54.9020	53.2258

*Table 2: Training, validation and test results in the first approach to the selection of the predictor variables  
(Source: The authors)*

In the second approach to the selection of the predictor variables, we started by considering all available variables, that is, 18 for the Microsoft title and 19 for the Apple title. For each title, networks with 1, 2, etc. hidden neurons were trained and validated and the network whose number of hidden neurons led to the least validation error was selected. The importance of all input variables for the selected network was calculated and the least important ones were excluded. In the next step, networks with the remaining inputs (the most important variables) were trained and validated and the network whose number of hidden neurons led to the least validation error was selected. For the following steps, the least important variables were successively excluded and the remaining ones were kept, leaving only one predictor variable in the end of the process. The results shown in Table 3 refer to the sets of predictor variables leading to the best validation results.

Stock	Network	Mean absolute percentage error (%)			Hit rate in price direction (%)		
		Training	Validation	Test	Training	Validation	Test
Microsoft	6-1-1	2.2481	1.2949	2.231	58.678	56.863	66.129
Apple	4-3-1	4.7289	2.0481	3.3121	50.4132	58.8235	51.6129

*Table 3: Training, validation and test results in the second approach to the selection of the predictor variables  
(Source: The authors)*

For the Microsoft title, it was the 6-1-1 network (6 inputs or predictor variables, 1 hidden neuron, 1 output) that led the least validation error. This network was applied to the test data with a forecast error of 2.2%, *i.e.*, 1.3 percentage points less than the error of the 8-1-1 network obtained in the first approach to the selection of the predictor variables. In addition, it should be noted that the 6-1-1 network showed a hit rate in the price direction in the test cases much higher than the 8-1-1 network: 66.1% against 38.7%. Thus, in average, in every 3 test cases, the 6-1-1 network was able to correctly forecast a price decrease, maintenance or increase in 2 cases. Taking into account the enormous volatility of the stock price, this is a very positive result. For the Apple title, the predictive performance obtained with the 4-3-1 network was superior to the one obtained with the 13-1-1 network of the first approach. Note that the 4-3-1 network applied to the test data led to a forecast error of 3.3%, minus 7.0 percentage points than the error of the 13-1-1 network. Also note that the result of the hit rate in price direction was 51.61% against the 53.23% obtained in the first approach. It is possible to conclude that, in average, in each 2 test cases, both networks correctly predict the price direction in only 1 case. Figures 2, 3 and 4 show the observed closing price for the Microsoft title and the forecasts obtained with the 6-1-1 network (second approach) and the 8-1-1 network (first approach) in the weeks of training, validation and test, respectively. In training and validation, the forecasts of both networks are close and estimate well the observed values. However, in the test, the 6-1-1 network forecasts are better than the 8-1-1 network ones, which tends to underestimate the observed values.

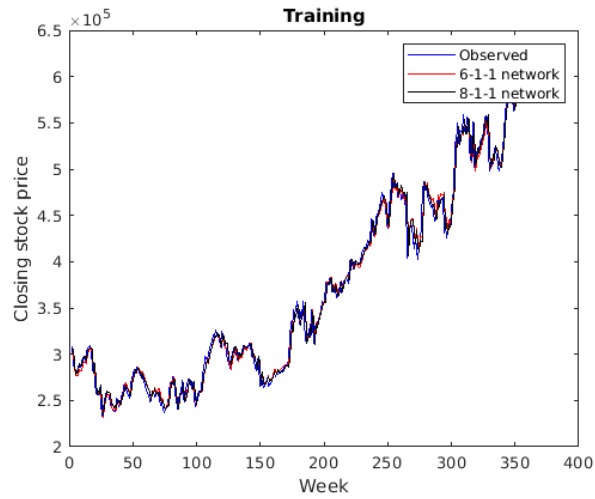


Figure 2: Training forecasts for Microsoft.  
(Source: The authors)

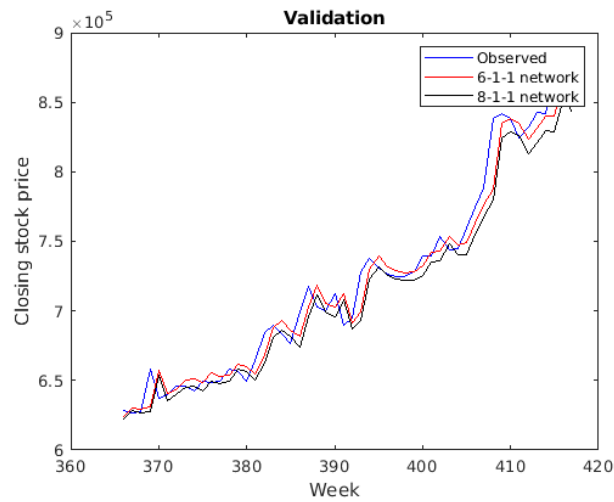


Figure 3: Validation forecasts for Microsoft.  
(Source: The authors)

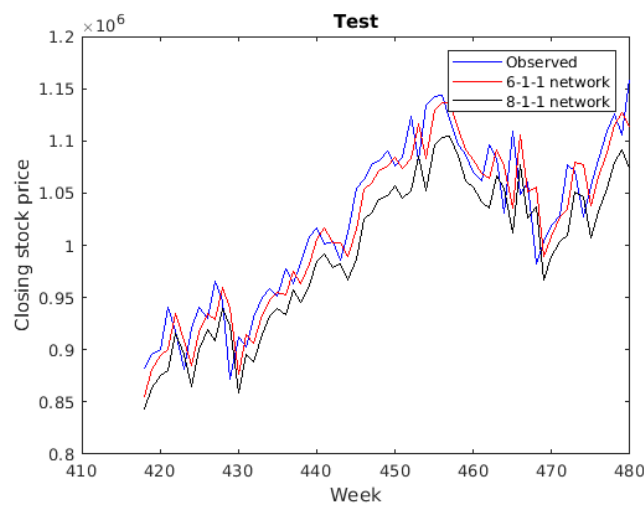


Figure 4: Test forecasts for Microsoft.  
(Source: The authors)

## 7. CONCLUSIONS AND FUTURE WORK

The predictor variables considered by investors, or, in other words, the information they use to predict the price of financial stocks, vary a lot from study to study. Furthermore, considering more variables does not necessarily lead to better forecasting results. For this reason, only part of the available variables should be carefully selected in order to obtain the best possible results. However, in most cases, the selection is carried out on a trial and error basis. In this work, we applied neural networks for stock price forecasting and compared two automated variable selection procedures. In the first one, the predictor variables are all the available variables that are not strongly correlated, *i.e.*, that provide independent information for stock price forecasting. In the second procedure, we quantify the importance of all available variables for the forecasting models developed and, using an iterative process, we successively exclude the least important. As far as we know, this second procedure with the measure of importance we considered was never tested in a context of stock price forecasting. In our experiments, the best results were obtained using this second procedure, both for Microsoft and Apple. We concluded that, regardless of the variable selection procedure, the neural networks tend to give more importance to the variables that are related to the feelings of the investors and less importance to the technical and accounting variables. The best forecasting results were achieved for Microsoft. In the future, we plan to carry out experiments with other titles, from other sectors of activity, seeking to corroborate some of the conclusions obtained in this study, for example, that the predictor variables should be selected based on their importance for the forecasting models. In addition, we would like to consider data with a frequency other than weekly.

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## MANAGEMENT SYSTEMS AND ORGANIZATIONAL PERFORMANCE: USERS' PERCEPTION OF HEALTHCARE UNITS

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### **ABSTRACT**

*Performance evaluation systems are a powerful human resource management tool, with an impact on organizational life. Its correct use can contribute to effectiveness and efficiency, as well as the introduction of changes in work methodologies, which must be periodically scrutinized. As people are the main asset of companies, their correct management/monitoring will necessarily have an impact, not only on individual performance, but also on a more general logic, involving all sectors of organizations. If the internal evaluation is vital, the perception that external customers have of performance is also important. This study aims to understand what users think about the quality of public and private health services, in the centre region of Portugal. Being the 360-degree evaluation a source of effective performance assessment, with the consultation of multiple actors who participate in the process, the users' opinion is an element of the greatest importance in the management of health services, in the perspective of continuous improvement. Using the Healthqual methodology and factor and regression analysis, significant associations were found between the service quality dimensions and patient satisfaction, being discussed in this paper such implications and future research issues.*  
**Keywords:** *Management, human capital, user perception, healthcare services, SERVQUAL, HEALTHQUAL*

### **1. INTRODUCTION**

At a time when the machine threatens to overcome man within the organization, performance and potential management is a powerful administration and human resources tool. From the outset, the measurement of individual, group and organizational results is a barometer of the greatest importance, allowing managers to verify whether the results are being achieved, and by whom, but it is also an indicator of what is going worst and if it is necessary to intervene. An oversight can be fatal in an increasingly competitive environment. Performance evaluation systems are considered human resource management tools with a strong organizational impact. They are the ones that allow verifying the individual or departmental contribution to achieve the objectives previously defined in each evaluation cycle, which can be weekly, monthly, quarterly or even annual. The lapse evaluation of the individual performance used in the last century gave rise to the management of organizational performance. It presupposes that, at the beginning of the cycle, the strategic objectives are defined according to the vision that the manager has for his organization. Assuming the existence of human capital with competence(s) to meet the goals, the objectives are communicated, which must be clear and attainable. Of course, throughout the evaluation cycle there are variables that are not controllable, such as legislative changes that may condition the results.



But we need to be prepared for externalities, which usually have a strong organizational impact. Performance management, in addition to setting goals and objectives, promotes close monitoring of the "actors" who will implement the action plan, since some are more autonomous than others. Effective management is not compatible with the 'abandonment' of employees throughout the evaluation cycle, even if something fails. And, if a party does not achieve what is predefined, can prejudice the whole organization. Although there is a perception that it is a seemingly simple process, it is far from the case. Evaluating the behaviour of human capital is a complex mission and is not error-free, in many ways. In organizations, a significant number of employees do not deal well with performance evaluation and this should be considered when deciding to move towards the introduction of this human resources management tool. There is a previous period that must be used to win people for the measurement of performance, because everyone has to gain: organizations, evaluator and evaluated. When the process is introduced without a broad awareness of the organizational population, internal problems can arise at any time, particularly at the end of the evaluation cycle when the results of the evaluator's measurement work are known. It is therefore essential to reflect on the introduction of this instrument since it is both strategic and problematic. Internal noise is not desired in the organizational world, but verifying what each collaborate contributes is, even if it is to support the compensation and benefits system. It should be stressed that the performance assessment should consider several sources, from the out then self-assessment, without neglecting what the leadership or the intermediate leadership thinks, as well as the peers. All contributions are important, but if the process goes beyond the internal borders of the organization, so much the better. The opinion of customers, suppliers, users and other service providers is very important in the direct consequence of a performance assessment: organizational change. Companies that do not change become outdated, lose the train of competitiveness sooner or later. That is why it is essential to improve, to bring skills, in order to create value. This research, which fits the theme of management in general and the evaluation of organizational performance in particular, aims to verify what perception that users of public and private health institutions have in relation to the services they provide. Thus, the following questions of departure are identified: What factors influence the satisfaction of users of health institutions? What opinion do users have on health services provided in the central area? What are the main weaknesses of regional health institutions? In order to obtain answers to these questions, a qualitative methodology based on bibliographic and documentary research will be used, which will support the deconstruction of the concept of management and evaluation of performance, as well as its intrinsic characteristics, namely its objectives, organizational impact and the errors that can be made. It should be stressed that this issue of bias is not to be neglected, because it can generate undesirable noise, hence the relevance of its study. Since from theory to practice goes a long way, in this paper we opted for an online questionnaire survey, with the objective of verifying whether the reality that occurs in health institutions in the region meets the currents of thought that will be identified in this study. What the theorists think do not always match reality and this research will try to verify if there is harmony between the bibliography and what actually occurs on the ground. This will be another research challenge.

## **2. ORGANIZATIONAL PERFORMANCE MANAGEMENT**

Performance management is an integrated process which managers and employees work simultaneously with the objective of clarifying procedures, expectations, measures, reviews of results and rewards, in view of the result obtained in the performance evaluation performed (Hartog, Boselie & Paauwe, 2004). Thus, from Deepa's, Palaniswamy & Kuppusamu (2014) perspective, can be characterized as a formal procedure that assesses behaviour and provides information about the current performance of employees and how their work can become more

effective in the future. For this reason, the authors consider this tool extremely important for the development of companies... and people. Lawler (2003) defines performance management as a concept which can integrate both behaviour and the results in a work system. In other words, performance management is a collective approach of managing operational activities based on agreed objectives, knowledge and skill for strategic goal achievement. In fact, in Human Resources, or rather, in Human Resources Management, performance management is often linked to performance evaluation in which the results of companies depend on the sum of individual contributions of the members of the organization. According to Carvalho (2008, p. 242), "performance evaluation constitutes a series of techniques, with the purpose of obtaining information about the professional behaviour of the evaluated during his/her performance at work". Chiavenato (1999, p. 189) maintains that "performance evaluation is a systematic assessment of each person's performance according to the activities they perform, the goals and results to be achieved and their potential development ". It serves to judge or estimate the value, excellence and qualities of a person and, above all, their contribution to the organization's business. However, we cannot be indifferent to the fact that reviews vary from company to company. Each organization is unique and must adapt to its surroundings. The objectives of performance management processes are: a) providing feedback to employees at all levels; b) have solid basis for decision-making at the level of employment (e.g. salaries; promotions; retention; termination; promotion and assignment of tasks); and c) a means of alerting employees with unsatisfactory performance (Cascio, 2006). Finally, according to Caetano (2008), the performance evaluation consists of the formal and systematic assessment, relative to a certain period, of the performance of people in the specific functions or activities for which they are responsible. Dusterhoff, Cunningham & MacGregor (2014) recall that the performance evaluation process is increasingly perceived day by day as an element of connection between employee behaviour and the organization's strategic objectives. Therefore, there are a variety of models that have distinguished themselves as organizational performance management systems, individual performance management systems and integrative organizational and individual performance systems (Hartog, Boselie & Paauwe, 2004). The literature tells us that there is no better method of performance evaluation, because each organization must adapt the one that best suits its needs. However, depending on the situation, certain methods are better than others and the choice of the model used will directly influence the final result of the evaluation. According to Chiavenato (1999, p. 195-199), the traditional methods of performance evaluation are: graphic scales; forced choice; field research; critical incidents and checklists. The first is the most common and the most used due to its simplicity. Uses double-entry table: In the rows are evaluation factors, in the columns the evaluation degrees. It evaluates through previously defined, simple and objective evaluation factors, ranging from unsatisfactory to excellent.

### **3. QUALITY OF SERVICE: THE USER'S PERSPECTIVE**

Quality is a concept that has several definitions and meanings. In fact, the authors define the quality in different ways. Crosby (1979) focuses on its concept of quality in how much a product or service meets the predefined specifications. On the other hand, Deming (1988), Feigenbaum (1983) and Ishikawa (1985) define quality as the products and services necessary for customer satisfaction according to their needs and expectations. In Juran's definition (1988), both visions are incorporated, that is, quality is measured by compliance with specifications and customer satisfaction simultaneously. The distinct characteristics of health care, such as intangibility, heterogeneity and concurrency make it difficult to define and measure the quality and complex nature of health care. That is, health services cannot be stored for later consumption, vary from situation to situation and are created and used at the same time. The authors of the health area have different views.

According to Joss & Kogan (1995), McLaughlin & Kaluzny (2006) and Naveh & Stern (2005), the quality of service, due to its intangibility, depends on the quality of care and the interactions that health professionals have with patients. However, for Piligrimiene & Buciuiene (2011), there have been disagreements between users, medical professionals and politicians about what quality in health is. Many authors have stressed the importance of determining the role of quality in the hospital choice of users, as well as satisfying and retaining clients. Karassavidou, Glaveli & Papadopoulos (2009) and Arasli, Ekiz & Katircioglu (2008) also stated that improving the quality of the services of health units will increase the number of satisfied users and consequently customer loyalty.

#### **4. THE RESEARCH MODEL: HEALTHQUAL**

Although Parasuraman et al. (1985) stated that the Servqual model was applicable to most service industries and scholars, such as Black (2000), Camilleri & O'Callaghan (1998) and Juwaheer & Kassean (2006) that argued and advocated a structure specifically for the health sector. In this sense, Donabedian's research (1988) was very useful, with regard to structure, process and result and was used as a basis for the development of quality in the dimensions of health. According to Camilleri & O'Callaghan (1998), the Donabedian Model (1980) for health units allowed the development of a comprehensive model to measure the quality of health units in a study based on hospitals in Malta. In the study, two questionnaires were conducted: one to measure the expectations of users between public and private hospitals and another to measure users' perceptions about the quality of service. The studies by Donabedian (1988) and Camilleri & O'Callaghan (1998) provided a useful insight into what was needed to define specific standards of quality in hospitals. These authors developed thus, following Parasuraman et al. (1985), a model called Healthqual, adapted from Servqual. Thus, the following case study will try to find answers about users' perception of health units in the central area of Portugal. The study is based on Miranda et al. (2012), which focuses on the perception that users of health institutions have of the services they provide, in the most varied fields: clinical, technical, administrative and general quality. The study by Miranda et al. (2012) was held in Spain, more specifically in the health units of Extremadura, and it was decided to extend it to the health units of the central zone of mainland Portugal. Following the literature review, it is time to make way for the second part of this paper, which will develop the methodology to be used to obtain answers to the questions of departure, in this case the questionnaire survey.

#### **5. RESEARCH METHODOLOGY**

The methodology in academic research is an essential instrument because it is the one that allows us to clarify the doubts/questions of departure or confirm/reject working hypotheses that are identified at the beginning of each study. Although the researcher has several paths at his fingertips, not all are the most suitable to achieve the objectives and hence this phase is nuclear to add something effectively new to the knowledge, not only from the literature review, which should be complemented with a case study, as thorough as possible. In fact, it is the investigator who determines the necessary method(s) and technique(s) that he/she should use to obtain answers to the questions of the investigation (Fortin, 2009). This author adds that the way the concepts are clarified and evaluated has a direct influence on the validity of the research results and, consequently, on the theoretical validity of the study. Thus, the investigation will seek to answer the following starting questions:

- What are the factors that influence the satisfaction of users of health institutions?
- What do users have an opinion on health services provided in the central area?
- What are the main weaknesses of regional health institutions?

Strictly speaking, it is intended to verify the perception of users who attend health units in the centre of Portugal, regarding the services they provide, thus identifying the positive and negative points in the field of performance management as a management tool that leadership has at its disposal. It should be noted that the evaluation should be the antechamber of organizational change, a concern that should guide managers on a day-to-day life. To reach answers to the questions of departure will use a qualitative methodology, which is based on bibliographic research (secondary data), based on national and international theorists who have already lectured on this subject of performance evaluation/management, as well as through an online questionnaire survey to users of health units in the central region of the country, public and private. This methodology will allow us to confirm or reject the theoretical aspect and bring new realities in people management, which is a constantly changing domain. It is intended that the survey has the widest possible scope, in such a way as to credibility the study as much as possible. The questionnaire survey was developed based on the *HEALTHQUAL Model*, an adaptation of the *SERVQUAL* scale to the context of use in health centres. It was used by Miranda et al. (2012) to measure the quality perceptions of users and hospital administrators in Spain. The questionnaire model used comprises six sections: General Characterization of the Respondent; Facilities and Structure of the Health Unit; Quality of Health Professionals; Quality of Technical User Support Professionals; General Efficiency; and Global Quality. The questionnaire consists was applied in 2020, being published mainly on social networks and via email. A total of 944 responses were validated. In the present study, the items were adapted and introduced some questions, namely about the current theme of Covid-19. Thus, after some adjustments, the questionnaire was left with the following sections and groups of questions:

*Table following on the next page*

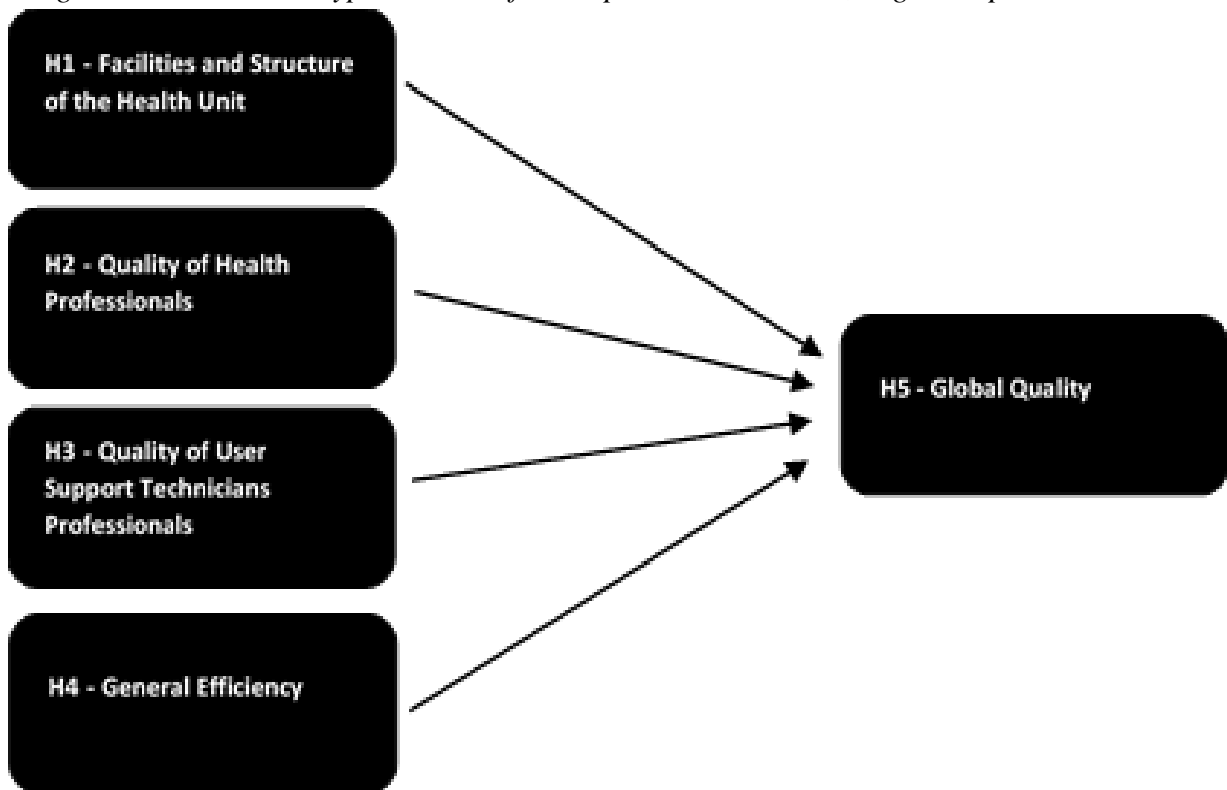
*Table 2: Survey Questions*

<b>Facilities and Structure of the Health Unit</b>
Q1: The health unit had good hygiene.
Q2: The health unit presented comfort and convenience to users.
Q3: The health unit had good ease of access to the consultation offices/rooms.
Q4: The health unit had easy movement of people with reduced mobility.
Q5: In the health unit there was privacy during the consultation and/or stay of the user.
Q6: The health unit car park was easily accessible.
Q7: The health unit had high-tech and well-functioning equipment.
Q8: The health unit had a good location.
Q9: The facilities were prepared to receive patients with Covid-19, presenting signs and adequate information, as well as good hygiene conditions.
<b>Quality of Health Professionals</b>
Q10: Health professionals seemed to have good hygiene.
Q11: Health professionals demonstrated professionalism.
Q12: Health Professionals were polite and kind.
Q13: Health Professionals transmitted safety.
Q14: Health Professionals efficiently transmitted their messages.
Q15: Health professionals were attentive to the patient's problems.
Q16: Health professionals have expressed concern in solving patient problems.
Q17: Health professionals tried to clearly understand the patient's problem.
Q18: I felt better when I was attended by Health Professionals with a higher degree of qualification.
Q19: I noticed that health professionals were well trained and prepared to deal with the pandemic situation caused by Covid-19, both in terms of knowledge, as well as protective equipment, disinfectants, among others.
<b>Quality of Technical User Support Professionals</b>
Q20: The Technical User Support Professionals appeared to have good hygiene.
Q21: The Technical User Support Professionals demonstrated professionalism.
Q22: The Technical User Support Professionals were polite and kind.
Q23: The Technical User Support Professionals were aware of the patients' problems.
Q24: The teams, in general, showed concern in solving the patient's problems.
Q25: I noticed that the technical professionals supporting the user were well qualified and prepared to deal with the pandemic situation caused by the Covid-19, both in terms of knowledge, as well as protective equipment, disinfectants, among others.
<b>Overall Efficiency</b>
Q26: In the health unit it was easy to make appointments.
Q27: The service time was low.
Q28: Exams were quick.
Q29: In the health unit, the patients resolved complaints.
Q30: The health unit was able to efficiently distribute the time allocated to each patient.
Q31: I noticed that there was a differentiated treatment for Covid-19 patients, without prejudice to the service efficiency relative to the remaining patients.
<b>Global Quality</b>
Q32: Overall I felt satisfied with the service received in the health unit.
Q33: Generally speaking, the health unit employees were helpful and accessible.
Q34: In general, the health unit was concerned with the user.
Q35: Overall, requests and/or complaints have always been accepted and resolved.
Q36: The health unit is safe and reliable.
Q37: The healthcare unit in question is always my first choice.
Q38: I intend to use the services of the same health unit in the future.
Q39: I would recommend the health unit to friends and family.
Q40: In general, I was satisfied with the action of the health unit in relation to the pandemic situation caused by covid-19.

## 6. MODEL AND HYPOTHESES

The model used in this paper is an adaptation of the one proposed by Miranda et al. (2012).

*Figure 1: Model with Hypothesis - Left: Independents variables; Right: Dependent variable*



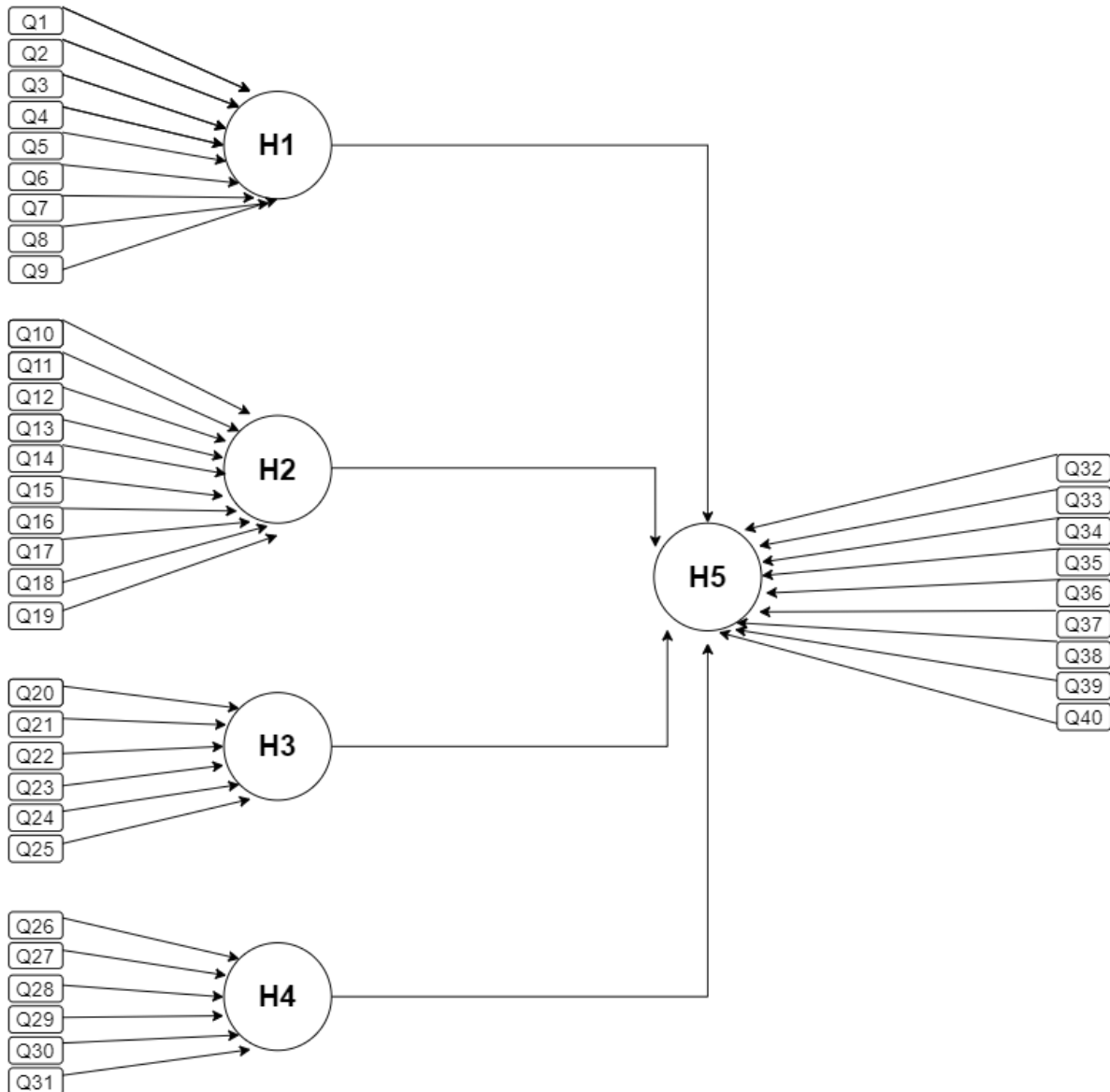
*Source: Own elaboration, adapted from Miranda et al. (2012)*

The proposed model consists of four hypotheses to explain the overall quality of the health units in the central zone of Portugal:

- H1: The Facilities and Structure of the Health Unit influences the perception of users of the Global Quality of health units in the central area – will seek to understand whether the facilities and structure of the health unit influence the perception of users of the overall quality of health units in the central zone through aspects such as hygiene, comfort, access facilities, privacy, location, among others.
- H2 - The Quality of Health Professionals influences the perception of users of the Global Quality of health units in the central zone – will try to understand whether the quality of health professionals influences the perception of users of the overall quality of health units in the central zone through the assessment of the empathy, guarantee and reliability of the service offered by the health team (doctors, nurses, among others).
- H3 - The Quality of Technical User Support Professionals influences the perception of users of the Global Quality of health units in the central area – it is similar to the previous one but through the technical professionals to support the user (security guards, administrative staff, among others), trying to understand whether or not the quality of the same influences the perception of users of the overall quality of health units.
- H4 - The General Efficiency influences the perception of users of the Global Quality of the health units of the central zone - tries to understand whether the general efficiency influences the perception of users about the overall quality of health units in the central zone through reliability factors, capacity and response of the health central in general.

Schematically, the model is represented in the following diagram:

Figure 2: Model diagram



## 7. MODEL RESULTS AND VALIDATION

### 7.1. Factor analysis – Alpha Cronbach

According to Pestana and Gageiro (2008), the Cronbach's Alpha test - or Cronbach's Alpha - allows you to determine the lower limit of the internal consistency of a group of variables or items. This limit will correspond to the expected correlation to be obtained between the chosen scale and other hypothetical scales of the same universe and with the same number of items used to measure the same characteristic. The Alpha value should be positive, with values between 0 and 1, having the following meaning: higher than 0.9 - Excellent; between 0.8 and 0.9 - Good; between 0.7 and 0.8 - Acceptable; between 0.6 and 0.7 - Questionable; between 0.5 and 0.6 - Poor; and less than 0.5 - Unacceptable. Kehoe (1995) states that for a scale of 10 to 15 items, the reliability should be higher than 0.50 and for scales with more than 50 items, the reliability should be greater than 0.80. In this research, as shown in Table 2, we could find that, in all survey sections, the Cronbach's Alpha value was higher than 0.9, with the exception of the Facilities and Structure of the Health Unit (0.88) and, therefore, the reliability is excellent.

Table 2: Alpha Cronbach's table

Reliability Statistics			
	Cronbach's Alpha	Cronbach's alpha based on custom items	N of items
Facilities and Structure of the Health Unit	,879	,889	9
Quality of Health Professionals	,953	,958	10
Quality of Technical User Support Professionals	,956	,956	6
Overall Efficiency	,935	,937	6
Global Quality	,967	,969	9

### 7.2. Factor Analysis – KMO and Barlett Test

The Kaiser-Meyer-Olkin test (KMO) presents normalized values (between 0 and 1) and shows the proportion of variance that the variables as a whole present in common, or the proportion of variation due to common factors, that is, measures whether the use of Factor analysis for the respective database is adequate or not. A test with a value below 0.5 means that the dataset is not indicated for the use of the technique, that is, that the sample size is inadequate. The closer to 1.0, the better the adequacy of the data. So,  $0.9 < KMO \leq 1.0$  the adjustment is very good;  $0.8 < KMO \leq 0.9$  Good;  $0.7 < KMO \leq 0.8$  Average;  $0.6 < KMO \leq 0.7$  Reasonable;  $0.5 < KMO \leq 0.6$  Bad;  $\leq 0.5$  Unacceptable. In our study, as shown in Table 3, below, we can see that, in all sections of questions, the KMO value was higher than 0.9 and, therefore, factor analysis is useful and there is a very good correlation between the variables. Similarly, Bartlett's scouting test is statistically significant ( $p < 0.000$ ). In both cases, the tests suggest that the data are adequate for factor analysis.

Table 3: KMO and Barlett Test table

KMO and Bartlett Test				
	Kaiser-Meyer-Okin measure of sampling adequacy	Bartlett's Scouting Test		
		Approx. Chi-Square	Df	Sig.
Facilities and Structure of the Health Unit	,903	2581,282	36	,000
Quality of Health Professionals	,943	7139,504	45	,000
Quality of Technical User Support Professionals	,919	4118,263	15	,000
Overall Efficiency	,913	1638,964	15	,000
Global Quality	,944	4827,985	36	,000

### 7.3. Regressive Analysis of the Final Structural Model

After the validation and reliability stage of the model, the results of the model are now analysed and the critical success factors of the health units in the central zone are explained. The regressive analysis allows us to determine the relative importance of the different dimensions of the health units of the central area of Portugal, in the perception of users. Thus, the results of each hypothesis under study - H1, H2, H3, H4 - are considered as the independent variables and the average results of global quality as a dependent variable.

*Table following on the next page*



Table 4: R<sup>2</sup> and adjusted R<sup>2</sup> table

Regression Model Summary <sup>a</sup>									
Model	R	R squared	Adjusted square R	Standard estimation error	Change statistics				
					R square change	Change F	Df1	df2	Sig. Change F
1	.899 <sup>o</sup>	.809	.808	.58481	.809	993,033	4	939	.000

a. Predictors: (Constant), H4, H2, H1, H3; Dependent variable: H5

R<sup>2</sup> represents the degree of adjustment of the regression model. Since R<sup>2</sup> and adjusted R<sup>2</sup> are similar, the model does not contain non-explanative variables because the Adjusted R<sup>2</sup> is penalized when they are included. Thus, it is possible to verify that 81%, a value considered significant, of the dependent variable (Global Quality) is explained by the independent variables H1, H2, H3 and H4, and the remaining variability is explained by factors not included in the model. Through the regression coefficient test it is possible to verify that the significance values are all <0.05 and the values of  $t > 1.96$ . This means that all independent variables significantly influence the dependent variable, that is, support the model. Beta ( $\beta$ ) values indicate that the variable that most influences the Global Quality of health units in the central zone is H2: Quality of Health Professionals. It should also be noted that all  $\beta$  values are high, corroborating what has been said previously, that all dimensions have a significant weight on the perception of users and, therefore, all hypotheses have been validated.

## 8. DISCUSSION OF RESULTS

After the presentation and analysis of the results, it is important to make a critical assessment of them, highlighting the most significant data and reporting previously published studies on this theme. In this case, a comparative analysis of this study will be made with that of Miranda et al. (2012), authors on which this investigation was based. The proposed structural model is supported by all the hypotheses raised, mainly by Hypothesis H2 (Quality of Health Professionals):

- H1 (The Facilities and Structure of the Health Unit influences the perception of users of global quality in the health units of the central zone) was the third dimension with the best indicators, with a value  $\beta$  of 0.182.
- H2 (The Quality of Health Professionals influences the perception of users of global quality in health units in the central zone) represents the dimension with the best result obtained, that is, a  $\beta$  of 0.394.
- H3 (The Quality of Technical User Support Professionals influences the perception of users of global quality in health units in the central zone) revealed to be the worst dimension of the study, with a value  $\beta$  of 0.172.
- Finally, H4 (General Efficiency influences the perception of users of Global Quality in health units in the central zone) was the second-best dimension with a value  $\beta$  of 0.296.

From the results obtained it was possible to perform an analysis of this model and compare with the study by Miranda et al. (2012). The regressive analysis is in line with the values obtained by the authors, and the quality of health professionals and the overall efficiency of health units are the factors that most influence the perception of users about the overall quality of health units. What differentiates the two studies is that for the case of the Portuguese central zone, the qualities of health professionals stand out from the other dimensions, while in the Spanish study the two most influential dimensions stand out from the others. One reason for such good results in both studies may be that, during an experience in a health unit, a doctor who knows how to deal with the patient with good qualifications and who shows concern in solving problems is given, that is, who knows how to find solutions for patients.

The quality of the support technicians is the factor that has a lower influence on the satisfaction of users of health units in the central area, and for Miranda et al. (2012), the facilities and structure of the health units were the hypothesis with lower values.

## 9. CONCLUSIONS

Organizational management has never been more challenged than it is now, due to a pandemic that has accelerated internal changes, such as increasing telework and using technology as an indispensable tool in business development. What is seen in hospitals, health centres and clinics is a kind of revolution in which, in the spotlight, is the safety of those who work in these institutions, who must be protected, but also the well-being of those who need doctors, nurses or administrative staff. All are part of this gear, which is going to get in the way if one of the parties does not do its job properly. This paper, whose topic was defined before the pandemic, eventually moved towards knowing the perception that users have regarding the health services provided in the central area, as well as identifying the main weaknesses of these health institutions, public and private. It should be noted that this research can be seen as a management tool, namely the assessment that patients make in the first person in relation to caregivers and other structure, human, technical and physical. It is an important tool for a possible improvement of the services provided, both at the medical level and in terms of auxiliaries, which are also part of the gear, but also in terms of equipment and infrastructure. It is on the basis of this type of studies that decision-makers can make changes in the level of human resources, whether in strengthening the staff of doctors, nurses, auxiliaries or in the administrative sector and even in the quality of facilities. The opinion of users can be a clarifying element of investment decisions in the short, medium and long term. In fact, it could be the basis of an investment schedule. The Healthqual model, used in this research, provides a useful management tool for measuring the functional quality. The results demonstrated the great importance of health professionals for the perception of users. So, patients can use the model to express their opinions and perceptions about the care they have received, based on their experiences versus lived expectations. This information is great and should be considered in health units as internal improvement that must be a constant challenge. The way users look at these public utility institutions is essential in the performance evaluation process, as they must resort to multiple sources, thus, reducing any errors of judgment, avoiding any internal conflicts. In this sense, the main conclusion that can be drawn from the questionnaire surveys is that users have a very positive perception of the health services in the central area, at a time when health is a major concern for many people, mainly due to the pandemic. However, there are aspects that work better and others that work worst in institutions providing this type of services, which is natural when data analysis has integrated the public and private sectors, where there will certainly be differences in those who look at health as a universal and biased free right or have an investment vision, with a return to shareholders. It is now important to try to find answers to the starting questions identified at the beginning of the investigation, for starters, find which dimensions influence the satisfaction of users. The model used in this investigation demonstrated adequate validity to measure the perception of users about the health units in the central area. Through the regressive analysis it was possible to verify that all dimensions are predominant and influential in the perception and satisfaction of users of health units. All of them presented significant values and, therefore, all hypotheses were verified (H1, H2, H3 and H4). Managers should thus give importance to all dimensions, because they are important for the perception of users and not fall into the temptation or error of valuing a variable to the detriment of the others, because they are all important for users. However, in cases of financial constraints, management may quantify the order of investment priorities and the data show that the quality of health professionals is the one that most influences the perception of users, followed by general efficiency, ahead of facilities and structures and, finally, the quality of

professionals and technicians supporting the user. Another issue that needs to be answered robustly through the analysis of the data is the opinion that users have regarding the health services provided in the central area. User support technicians and facilities and infrastructure were the least high results, which is somehow in line with the previous question. This may be due to the fact that users do not give so much importance to functions that do not have as much impact on the 'experience' in the health unit and, in the second case, the facilities and infrastructure, although satisfactory, need improvement. The perception of users of a health unit depends mainly on dimensions that are closely linked to health professionals who are in direct and prolonged contact with the patient, as well as certain measures of efficiency: ease in the appointments, the time of care and examinations, the resolution of complaints made by patients and the distribution of the time allocated to each user. Finally, the answer to the following question is to be answered: what are the main weaknesses of regional health institutions? The present study demonstrates that the main weaknesses of regional health units are facilities and infrastructures and efficiency in general. In the first case, weaknesses stand out in the car park of health units and in their equipment. These two variables, representing weaknesses, are not critical in the satisfaction of users, so they do not significantly influence the importance of the dimension in the model. On the other hand, in the area of efficiency in general, the ease of appointments, the low time of care, the rapid performance of examinations, the resolution of complaints made by users, and the time allocated to each user. This paper thus ends up breaking the ground for further investigation. From the collection of data, comes the perception that health professionals in the central area have in relation to the institutions where they provide services, through the self-assessment and evaluation of their peers. In addition to evaluating performance as a people management tool, this study raises an essential question for the country's health services: should it invest in human resources or infrastructure? New or improve existing ones? In a country where the health issue has forced a huge effort to invest in health institutions, especially public but also private, financial resources must focus on what is most important, because in this area everything counts and, in this sense, a gap can condition the services that are provided in a country where people are increasingly demanding. And they should be, because only then is we going to have higher quality. In conclusion, it is important to remember here that the most powerful force of management and leadership is the example, and this has to be given every moment. The options that are taken should be based on a structured study that meets the interests of users, without forgetting that effectiveness and efficiency depend on qualified and motivated health professionals who develop their work in facilities and with excellent equipment. Unfortunately, the pandemic has revealed that there is a long way to go. But the path is made by... walking.

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# CONTINUITY MANAGEMENT AND RISK MANAGEMENT AS A TOOL FOR PREVENTION TO ORIGIN OF CRISIS SITUATIONS AND INCREASING THE RESILIENCE OF THE ENTERPRISE

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## ABSTRACT

*The current state of the world's social and business environment is affected by the occurrence of the COVID 19 pandemic. Negative influences of the pandemic on countries business activity like a whole constantly persist and interruption of operation is one of the worst impacts, which enterprises to fight. Because interruption of business triggers the next of negative domino effects with the impact not only on the business environment and interested party's, but also on the community and regions and social environment. Business activities influence a lot of factors from the external and internal environment. On the one of the side is needed, to enterprises flexible react on the influences and changes of environments, on the two of the side are must-try about constantly improving their processes, to satisfy the requirements of customers, which gradually changes too. The combination of the introduction of risk management, process management, and continuity management to business management, possible to harmonized business activities so, to reach good results, increased resilience, and sustainable growth. Every one of the revealed causes of the failures and errors of business processes is helpful to improvement to processes. However, not every enterprise and his management know harmonize all approaches to activities. The purpose of this article is to refer to the possibility to use the risk management and continuity management as a tool the avoid interruption of operation and increasing of the resilience of the enterprise.*

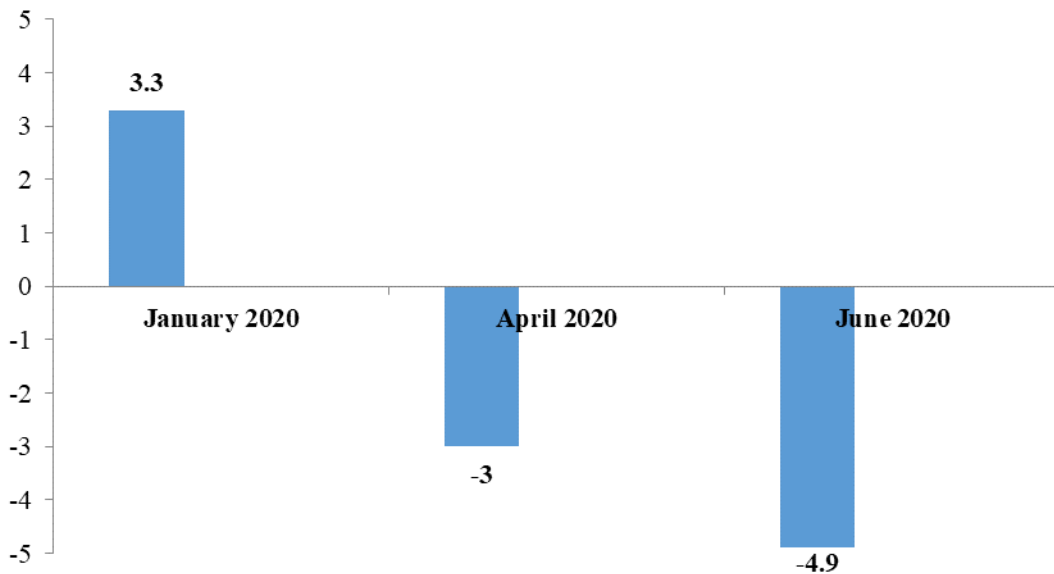
**Keywords:** *Risk, Risk management, Continuity management, Enterprise, Resilience*

## 1. INTRODUCTION

The issue of risk management is currently very topical. The COVID-19 pandemic has affected all areas of human life, whereas significantly affecting the business environment and activities of large enterprises, as well as small and medium-sized enterprises (SMEs) and tradesmen. In this sense, we can perceive risk management as a tool for prevention to the origin of crises and increasing the resilience of the enterprise. Recent events have referred to the importance of constantly assessing and managing the risks, which originated to regarding with the COVID-19 pandemic, so that the second wave does not affect enterprises as much as the first. The time, what management of enterprises got, was to be used in the form of a thorough analysis of the internal and the external business environment, identification, analysis, and risk evaluation and subsequently into the design of the measures to mitigate them. Besides that is needed to put of importance on ensuring continuity of the business environment. The business environment is a constantly changing environment, which is influenced by factors from the external environment, which result especially from state-imposed obligations and affect the internal

environment of the enterprise. The action of different factors is possible to change the overall development of the enterprise, as well as the interests of its stakeholders. Every enterprise operates in other business environment and disposes of different resources, so it is needed, so the enterprises to approach the implementation of risk management responsibly. An integral part of the business is the risks, which affect the enterprise. Effective identification, analysis, and risk evaluation can prevent the spread and negative impact of risks on the enterprise. Effective incorporation of risk management into business activities, it is possible to manage risks and avoid losses, which can also help to stabilize and improve the enterprise's competitiveness. Risk management is performance-related, aims at the growth of the company and serves to prepare a better basis for decision-making (Haviernikova, 2017; Klučka, 2020; Masar, 2019; Titko, 2016). Business risks are specific to every enterprise because every enterprise is different and has an other background resulting from the internal environment, as well as resilience to the negative effects of the external environment. These potential risks can cause very high damage to the enterprise and can be very time consuming to mitigate and restore operation to their original condition. Therefore, it is necessary for enterprises to deal with them, not to overlook them, and with suitable preparation and predictability of management, thus preventing their possible negative impact, regardless of the size of the enterprise. The prepared enterprise can thus minimize their impact on profit, lost time, productivity, and also a negative impact on customers. Risk management is a tool for complexly assessing factors of the risk and managing them so that risks are managed without unnecessary losses. Considering the operation of the enterprise and managed business risks, this issue is addressed by continuity management, which has a complementary character to risk management. Continuity management can be understood as the support of risk management, which helps to understand clearly the operational and business risks and their consequences within the business. Interruption of the operation is one of the worst impacts, which enterprises face. Business interruption can trigger the next negative domino effects with an impact not only on the business environment and stakeholders but also on communities and regions and the social environment as such. The current state of the global social and business environment is affected by the occurrence of the COVID-19 pandemic. The negative effects of the pandemic have largely affected the business activities of the countries as a whole. Business entities were forced, due to the unceasing situation, to interrupt their operations, which had an impact on their operability and performance. The COVID-19 pandemic negatively affected business activity, especially SMEs, as well as large enterprises and tradesmen. COVID-19 is an infectious disease caused by the coronavirus SARS-CoV-2, which has been appearing in the world since December 2019 and still affects our lives and health, the world economy, economic development, etc. During the pandemic, global production was assumed to decline by 4.9% (in 2020) (Figure 1). This global situation is compared to the great economic crisis of 1920, while has a significantly worse recessive character. More than 75% of countries try to settle with the current ongoing pandemic and maintain their economy. Assumptions for a partial recovery of the world economy in 2021 are at the level of 5.4% (recorded in June 2020) (Gopinath, 2020).

*Figure following on the next page*



*Figure 1: Graph of expected decline in global real GDP in 2020  
(Source: According to Gopinath, 2020)*

„These projections imply a cumulative loss to the global economy over two years (2020–21) of over \$12 trillion from this crisis“ (Gopinath, 2020). The ILO SCORE program conducted a survey, called MSME Day 2020 while focusing on the impact of the COVID-19 pandemic on small business. At present, great importance is attached to SMEs and micro-enterprises, „representing more than 70% of global employment and 50% of GDP“ (MSME, 2020) and it is this business environment that is most affected by the COVID-19 pandemic. The survey aimed at SMEs, which took place in May 2020, was also a kind of education within the ILO SCORE program, which helped enterprises to improve their competitiveness and productivity. However, the enterprise's preparedness for the effects of the pandemic was not sufficient, while affecting the entire continuity of the enterprise. The subject of the survey was 1000 enterprises from 8 countries from 4 continents of the world. From this examined component, „70% have had to shut down operations. Half (50%) have temporarily closed their business by following direct instructions from the authorities, while the other 50% have closed temporarily due to a reduction in orders, cases of staff COVID-19 infection, or more sadly, permanently“ (MSME, 2020). Also, lower revenues are expected for more than 75% of SMEs in 2020. „One-third (33%) of businesses anticipate losing more than half of their revenues“ (MSME, 2020). The support of business continuity was launched by 85% of SMEs while taking steps to protect employees against COVID - 19 with help of complexly informing employees about the measures taken (MSME, 2020). In the interest of the enterprise, it should be to early identify the emerging crisis within the causal crisis chain, what the nearest of its beginning. This is a situation where it is easier and faster to identify the real cause of the crisis and when the consequences of the emerging crisis are not felt for the organization and the crisis has not yet manifested itself in the financial field. Therefore it is necessary so that based on the results of the risk assessment and after to incorporate measures on the minimize of the risks to create an effective and complexly function system on ensuring continuity business. In this way, the enterprise can relieve psychological pressure on employees, and so on the general public. Although the situation shows that we will be fighting with the pandemic for a long time to come, more than half of small enterprises do not have concrete measures and procedures, how to respond, if for example there is a situation, where someone of the employees shows signs of illness. The larger the enterprise, the crisis plans (strategic plans in case of a pandemic) are more complex.



Enterprises can use plans where are defined the competencies and responsibilities of the employer and the members of the crisis team. The crisis team should preventively ensure the material and technical readiness of the enterprise and the training of employees in the area with a target to increase its resilience. The intention is that the infection does not penetrate the enterprise, but also how to proceed if it does. Again returning to the work environment and effort to revitalize business creates for managers and business owners many new challenges. On one of the sides, there are efforts to increase the safety of the working environment for employees, the provision of personal protective equipment, and the creation of conditions to ensure normal work activities. On the second of the sides, the search for alternative options according to the character of business activities such as home office, "kurzarbeit". Business interruptions have long been at the forefront of global surveys, although so far this has been mainly due to reasons such as increasing outsourcing for suppliers, supply interruptions and just-in-time production, centralized public procurement, cyber-attacks, whether in the form of technical outages, intentionally caused by attacks, or for example leakage of data and personal data of clients and others. Today, as a result of the pandemic, to these causes added also the missing employees, a change in customer preferences, the unpreparedness of management and employees to move to the online space or home office, internet outages, etc. Increasing the flexibility and cost-effectiveness of current supply processes brings completely new risks. If we will take business risks as a whole, so increasing the interconnectedness of risks increases the vulnerability of the whole enterprise in the relation to risk of the interruption. This is why it is necessary to emphasize the prevention of crisis situations by implementing risk management in business and at the same time the use of continuity management.

## **2. PREVENTION OF CRISIS SITUATIONS THROUGH THE IMPLEMENTATION OF RISK MANAGEMENT AND CONTINUITY MANAGEMENT IN THE ENTERPRISE**

Specific and one definition for the risk does not exist. In general, risk can be understood as an accompanying phenomenon that is part of our every activity. In case of risk impact, may be affected by the operation of our future activities. Exist many definitions describe the meaning of risk, as well as different authors who have different views on the term. The definition of risk can also be found in several norms and standards.

- According to ISO 31000:2018 Risk Management – Guidelines and ISO 22301:2019 Societal security – Business continuity management systems – Requirements: risk is the „effect of uncertainty on objectives“.
- ISO/IEC Guide 51:1999, Safety aspects – Guidelines defines risk as: „combination of the probability of occurrence of harm and the severity of that harm“.
- Sadgrove (2005): A risk is „a future event that results from actions taken now. That is why managers should consider different options for any problem, and evaluate the consequences“.
- Henderson (2017): „risk is the possibility of experiencing an event that could cause harm, loss, or disrupt operations“.

Considering to operational risk is a risk associated with the operation of the enterprise and its operational activities. It is a type of business risk that depends on the operation of the enterprise and its activities provided by human resources. These risks arise from interruptions or error operations of the enterprise.

- Frenkel (2005): „Operational risk is defined as the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events“.

The essence and importance of individual disciplines are expressed in several international standards, which are a summary of the basic requirements of the field. They are a document, which is intended to facilitate orientation in the issues addressed, regardless of the size and type of sector of the enterprise. Continuity management is dealt with by norms and standards:

- BS 25999-1:2006 Code of practice for business continuity management - contains recommendations and requirements for continuity management,
- BS 25999-2:2007 Specification for business continuity management - contains requirements for the implementation, realization, monitoring, maintenance, and improvement of the continuity management system,
- BS 25999-1 Business continuity management – Part 1: Code of practice - here is describe the relationship between risk management and continuity management,
- ISO 22301 Societal security - Business continuity management systems – Requirements – in 2012 the norm replaced the standard BS 25999-1 Business continuity management – Part 1: Code of practice.

The closely related norms are:

- ISO 9001 Quality management systems,
- ISO 14001 Environmental management systems,
- ISO/IEC 27001 Information security management systems,
- ISO/IEC 20000-1 Information technology – Service management,
- ISO 28000 Specification for security management systems for the supply chain,
- etc., which follow up and develop the provision of business continuity, while covering every single threatening area of business, which the disruption or even interruption of which can cause significant changes in the functioning of the enterprise.

Risk management is dealt with by norms:

- ISO 31000:2018 Risk management – Guidelines – is the most used international norm for risk management, which contains guidance on risk management. It is a document designed for people who work with risks, participate in their management at any level of the system, and make decisions. It can be used by all types of enterprises, regardless of their size or sector (ISO 31000:2018).
- ISO 31010:2019 Risk management - Risk assessment techniques – contains techniques of risk assessment and describes the process of risk management. It is a document that provides a summary of several techniques, which use to help for making decisions in unclear risk situations (ISO 31010:2019).

Continuity management is a summary of activities, which deal with ensuring the course and fluency operations of the enterprise. It focuses on the identification of activities that may cause the interruption of operations of the enterprise, and its activities, which are necessary to ensure the operability of the enterprise. Business continuity can be ensured through continuity management that integrates several disciplines (risk management, quality management, safety and health at work, etc.), with a target to prevent crisis events. The key elements of developing a business continuity management, from which the whole process starts, are undertaking business impact analysis and risk assessment (Bjerga, 2016; Hudáková, 2019; Charoenthammachoke, 2020). The connection between risk management and continuity management consists of a better understanding of the enterprise and its individual activities, which ensure the operation of the enterprise, as well as prevention against negative phenomena that may affect the enterprise. Continuity management has a complementary character and can be understood as supporting risk management, which helps to understand clearly the operational

and business risks and their consequences within the business. It can also be understood as prevention of emergence of the risks and subsequent continuity management as a response to the risks (Figure 2).

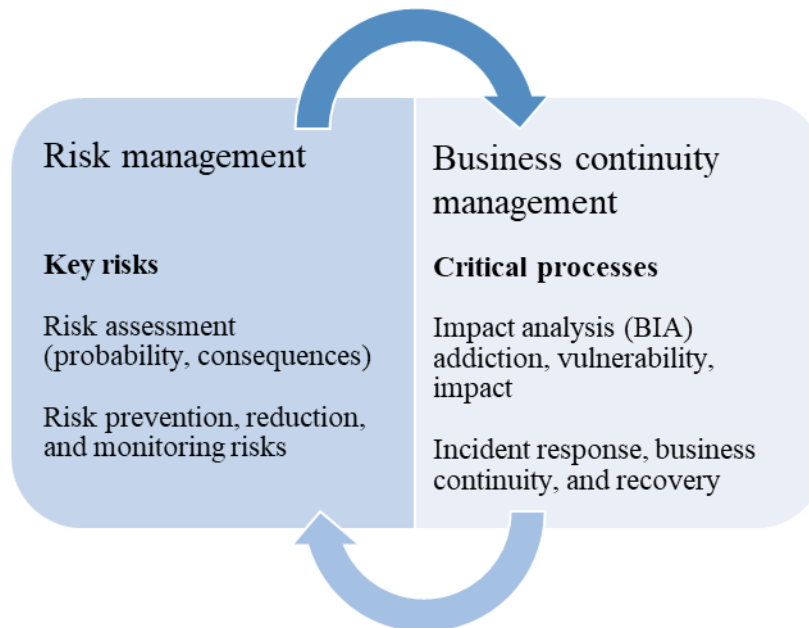


Figure 2: The connection between risk management and continuity management  
(Source: Authors)

Thorough prevention and incorporation of risk management and continuity management into all business activities reduces the negative effects that may arise. Effective risk management helps maintain the stability and competitiveness of the enterprise, as well as ensuring its resilience and operational viability.

Great emphasis needs to be placed on planning and forecasting the worst-case scenarios, as well as measures that should ensure the continuity of critical activities (Figure 3).

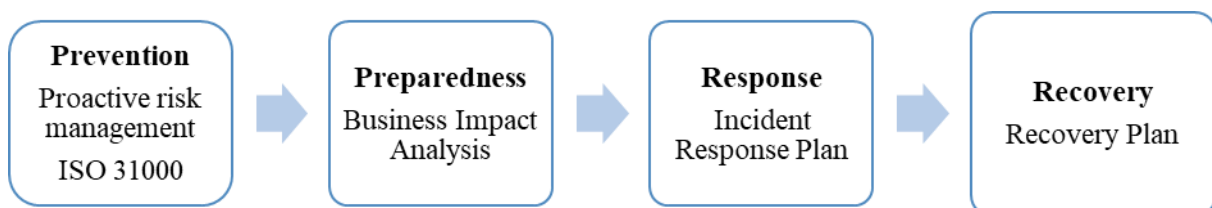


Figure 3: Risk management and business continuity planning  
(Source: Authors)

If the enterprise implements risk management and has processed risk identification, analysis and evaluation, and measures designed to minimize risks for unacceptable risks, the next important step is their ongoing monitoring. The methods of implementation are different. A prerequisite for managing the reduction or interruption of operations as well as pandemic risks is the creation of a complex catalog of risks, which will also include pandemic risks, including a description of their causes and consequences, analysis and evaluation (the degree of risk based on the probability of their occurrence and the size of the negative consequences), as well as adequate measures for their mitigation.

It is, therefore, necessary to indicate the owner of the risk, who will monitor the changes in the given risks based on their development (setting limit values, traffic lights). The measures proposed must be specific, for example, conditions for using the home office in case of employee quarantine, or how to react in case of suspicion of illness (procedure and communication). In the case that preventive measures fail, it is possible to use tools of continuity management and timely reactions to recover critical activities. Subsequently, the risk management process needs to be adapted to make preventive measures more effective in the future. As part of risk monitoring, it is necessary, for example, to set critical indicators that will be monitored and these relate to for example key suppliers from, whom we should have information on how they can ensure continuity of supply in times of pandemic. The next of the critical factor is the loss of employees, changing customer preferences depending on changes in the environment (tourism, culture). The risk catalog also includes opportunities (business respectfully improvement) as stated in ISO 31000:2018 Risk management – Guidelines. At present, it is possible to use in the diversification of the service, for example in the case of restaurants it is a delivery service or the expansion of the operation in the production of medical devices, and so on.

### 3. CONCLUSION

The current business environment is non-standard and very important is the prevention and education of employees in a relationship with epidemiological risks. If preventive measures fail, the enterprise must have a crisis plan (recovery plan) and plan a form of business interruption. It should include specific enterprise procedures, such as alternative sources of supply and, of course, financial reserves that could be used in a given emergency situation. It is necessary to prepare employees in advance for the use of online space, for example, for consultations, investment in online tools, the use of social media, but also changes within your supply chains should be considered. In the current uncertain business environment, enterprises will likely in the short term prefer only marketing activities with a clearly measurable return, in the case of the limit altogether. Emphasis will be placed on the ability to repay their financial obligations, such as wages, rents, and others. Many enterprises invest not small financial funds to hedge before the risks and realization of preventive measures. So, these financial funds to be spent effectively, it is necessary to know all the causes of the risk, as well as the consequences that the risk brings. These consequences should, as far as possible, also be assessed financially, so that determine the effectiveness of the funds spent on preventive measures. It is also important to oversee the building of the enterprise's resilience and the approach of identification and analysis of risk sources, as well as control of risk consequences and monitoring of their development based on monitored indicators from the perspective of responsible persons. Due to the uncertainty in the business environment, it is also necessary to ensure business continuity and prepare plans for the recovery of critical processes. The importance of risk management and continuity management lies primarily in the readiness and thus greater resilience of the enterprise to face unexpected situations.

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## INCREASING RESILIENCE OF ENERGY SECTOR TO ADVERSE EFFECTS OF CLIMATE CHANGE

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### ABSTRACT

*At present, the energy sector is one of the basic pillars for the safe and reliable operation of any infrastructure and thus meeting the needs of the population. At the same time the energy sector faces many serious threats of a natural and social nature. The paper is dealing with the issue of vulnerability of human society to power supply failure caused by extreme weather events. It points to the negative consequences of climate change for the energy supply and the resulting risks in the energy value chain. Then it describes the elements of the resilience of the energy value chain and provides options of adaptation measures in the energy sector aimed at mitigating the adverse effects of climate change, reducing society's vulnerability and increasing the adaptive capacity of the energy sector to current or expected negative effects of climate change.*

**Keywords:** *Energy, Climate Change, Resilience, Society, Vulnerability*

### 1. INTRODUCTION

Today's advanced civilization and its continual technical and technological progress brings with it, in addition to the general growth of prosperity, new, modern risks and dangers, many of which today, by their significance, transcend the borders of regions and states. Industrialization has an impact on ecology, uneven development produces prosperity on the one hand but poverty on the other. The population explosion in the third world and the lack of livelihoods are causing migration. Different civilizational developments, cultural and religious peculiarities are becoming a source of conflict. Political, religious and national extremism breeds terrorism. These risks and threats which in previous times were generally local, regional in nature, in many cases become a threat to humanity as a whole, as they become global in nature. One of the greatest global problems of humanity at the beginning of the 21st century is the negative consequences of changing climatic conditions on socio-economic and natural systems. The World Economic Forum, in its Global Risk Report (2020), which regularly assesses the 50 largest global risks in terms of their effect, likelihood and interactions, has ranked extreme weather, climate action failure, biodiversity loss, and water crisis among the top 5 risks today. Although the effects of climate change vary across the world and from region to region, its adverse effects on socio-economic and natural systems are becoming increasingly significant and require an active response.

### 2. ENERGY SECURITY OF THE COUNTRY AND SECURITY THREATS OF ENERGY

At present, the energy sector is extremely strategically important as not only the economy but the whole human society is able to function without energy. However, the energy sector faces many serious threats of a natural and social nature which are dynamic, interlinked and subject

to change depending on internal, regional and global conditions. For this reason, the issue of energy security is perceived in a transnational and Euro-Atlantic context. These risks, as well as the negative consequences of short-term power outages, raise the issue of energy security which from the point of view of strategic documents of the Slovak Republic in the field of energy means "reliable energy supply, ensuring access to energy resources and fuels in the required quantity and quality at reasonable prices" (ME SR, 2008). Threats affecting a country's energy security can be divided into several aspects, e.g. according to their nature to natural and social, according to the place of occurrence to external and internal. The critical infrastructure threat and risk catalogue, in terms of a general approach, developed by Deloitte (2012) defines the current threat groups applicable to the risk analysis shown in Figure 1.

<b>Natural disasters</b>	<ul style="list-style-type: none"> <li>fires, floods, hurricanes, hail, snowstorms, lightning, icing, epidemics, pandemics, earthquakes and more.</li> </ul>
<b>Industrial and traffic accidents</b>	<ul style="list-style-type: none"> <li>traffic accidents, operational accidents with subsequent explosion, fire, leakage of oil, toxic or radioactive substances.</li> </ul>
<b>Technical failure</b>	<ul style="list-style-type: none"> <li>destruction of buildings, technical failure, mechanical damage, non-functional connection.</li> </ul>
<b>Organizational shortcomings</b>	<ul style="list-style-type: none"> <li>disruption of production processes, supply, insufficient capacity/ resources, lack of qualified workforce, unavailability of services.</li> </ul>
<b>Negative impacts of human activity</b>	<ul style="list-style-type: none"> <li>seepage from municipal landfills, toxic waste, excessive noise and vibration.</li> </ul>
<b>Intentionally harmful human activity</b>	<ul style="list-style-type: none"> <li>terrorist attack, sabotage, strike, vandalism, violent criminal activity, theft.</li> </ul>
<b>Force majeure</b>	<ul style="list-style-type: none"> <li>change of legislation, sudden loss/loss of persons, rescue/humanitarian actions.</li> </ul>

*Figure 1: Catalogue of critical infrastructure threats and risks (Deloitte, 2012)*

The mentioned catalogue of critical infrastructure threats and risks can be used for various critical infrastructure sectors. To define the risk catalogue in the Energy sector, as well as other sectors, it is necessary to formulate and define a group of assets that are exposed to threats. Based on the analysis and assessment of the significance of individual risks for a given area of assets, it is necessary to select optimal security measures from the point of view of critical infrastructure protection (Brutovsky, 2019), (Hudakova, 2019). The EU is currently unable to guarantee Member States' energy security. It remains within the competence of the Member States to determine energy policy and, in particular, to determine the energy mix, which also follows from the different portfolio of resources of the individual Member States. In this situation, it is up to the EU Member States to focus on the development and implementation of a set of legislative and institutional measures aimed at ensuring energy security and the efficiency of the use of alternative energy sources. In the long run, it is a matter of ensuring a reliable supply of all types of energy in the required quantity and quality, at optimal costs and



taking into account environmental requirements. In the light of the approach thus determined, the individual governments of the countries must take into account the need for a long-term energy security strategy, ensure self-sufficiency in energy supply, and take into account optimal pricing policies, including the ability to export energy (ME SR, 2014).

### **3. VULNERABILITY OF THE SOCIETY TO POWER OUTAGES CAUSED BY EXTREME WEATHER EVENTS**

Extreme natural events are among the energy threats that can cause failure or damage to a large part of the electricity system which could mean a resumption of supply lasting several days to weeks. The consequences of such a disruption of large-scale electricity supply would be cross-cutting in all areas of society and bring with them enormous interference in the daily lives of citizens. The depth and extent of the consequences depend on the degree of dependence on electricity and the existence of alternative energy sources. The large-scale electricity supply disruption type plan defines the following groups of impacts on society (MIT CR, 2018):

- Impacts on people's lives and health.
- Impacts on the environment.
- Economic impacts.
- Social impacts.
- International impacts
- Impacts on critical infrastructure.

In terms of vulnerability assessment, it is necessary to address not only the negative impacts on society but also the so-called adaptive capacities that the society has at its disposal and which serve to solve the emerging crisis situations and reduce their adverse effects. The identification, analysis and assessment of vulnerabilities in society, economy, institutional structures, as well as the environment are essential information needed to reduce risk and improve the level of preparedness for various risk and crisis situations.

### **4. NEGATIVE CLIMATE CHANGE IMPACTS ON ENERGY SECTOR**

Climate changes are no longer just a vague and distant threat but an actual problem of today. Climate change is now, in the minds of the general public, associated primarily with anthropogenic climate change which is caused by the excessive burning of fossil fuels (coal and oil), especially in energy, industry and transport. The consequences of climate change are already being felt today, the most significant indication of which is the increase in average temperature. However, the precipitation regime is also changing, as the temperature rises, the evaporation increases, the risk of drought increases, and the water in the country decreases. Due to the rising global temperature, atmospheric events are more dynamic, there are more intense storms, accompanied by strong winds and torrential rains (Historical revue, 2020). Energy and climate change are closely linked. On the one hand, energy production and use has a massive impact on the climate, on the other hand, climate change can create conditions that will negatively impact the energy sector. Energy infrastructure is part of critical infrastructure and its malfunction has a serious impact on the implementation of the economic and social function of the state, and thus on the quality of life of the population in terms of protection of their lives, health, safety, property and environment. Energy subjects are often exposed (directly or indirectly) to the consequences of climate change. In the energy sector, potential environmental and operational risks arise from the nature of individual operations, facilities and processes, where the manifestations and consequences of climate change may represent a potential threat to the operational continuity, the occurrence of major industrial accidents or threats to human safety and health. Risks in the value chain in the energy sector are shown in Table 1 (ME SR, 2017).

Physical risks are related to e.g. damage to infrastructure, price risks are given e.g. increased volatility in raw material prices, product risks are related to market share and regulatory risks are related to legislative and regulatory measures by state and public authorities caused by climate change.

Risks in the value chain in the energy sector			
Physical risks	Price risks	Products risks	Regulation risks
Environmental nature of risks - e.g. collapse of ecosystems or lack of natural resources - especially water - which may result in a reduction in quantity and limited availability of drinking, utility and technological water, an increase in damage to water building, etc.			
Operational nature of risks - e.g. damage to infrastructure, unstable supply of raw materials and materials, unstable supply of electricity (reduction of operational efficiency due to water unavailability, reduction of hydro-electric power plants efficiency, reduction of capacity of transmission and distribution electricity systems and their instability), increased risk of failures and material damage in electricity transmission and distribution systems due to more frequent extreme weather events (hail, wind disasters, etc.).			

Table 1: Risks in the value chain in the energy sector (Source: ME SR, 2017)

## 5. ADAPTATION MEASURES IN ENERGY SECTOR

The main goal within the Energy sector is to ensure affordable and reliable environmentally friendly energy. Hence the key role of ensuring that the energy value chain is resilient to the adverse effects of climate change. Resilience of the energy sector refers to the capacity of the energy system or its components to cope with a hazardous event or trend, responding in ways that maintain their essential function, identity and structure while also maintaining the capacity for adaptation, learning and transformation (IEA, 2015). Figure 2 indicates the factors of resilience value chain of the energy sector. The resilience “value chain” integrates robustness, resourcefulness and recovery (IEA, 2015):

- Robustness is the ability of an energy system to withstand extreme weather events as well as gradual changes (e.g. sea level rise) and continue operating.
- Resourcefulness is the ability to effectively manage operations during extreme weather events.
- Recovery is the ability to restore operations to desired performance levels following a disruption.

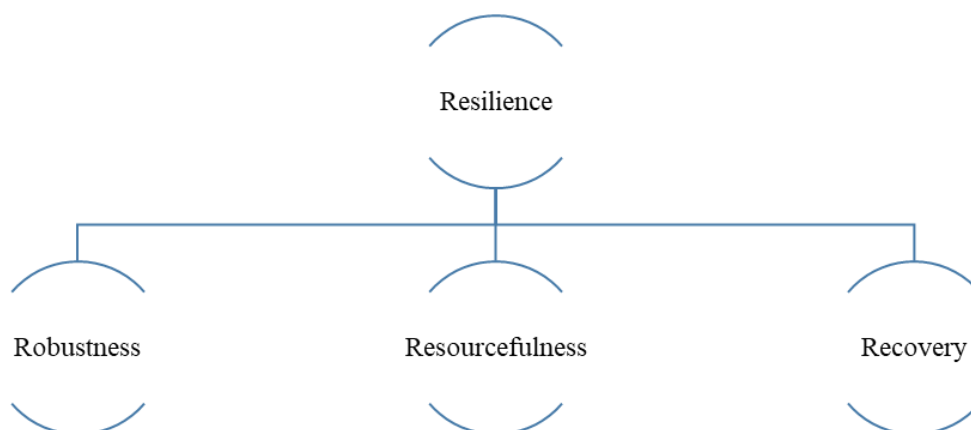


Figure 2: Factors of resilience value chain of the energy sector (Source: IEA, 2015)

Adaptation of an energy system to climate change refers to the process of adjustment of all components of the energy system to actual or expected climate and its effects.

Based on international experience in the energy sector, it is possible to apply the following adaptation measures (ME SR, 2017):

- *Management and technical measures* - modelling the impact of climate change on energy infrastructure, cooperation with meteorological services and climate forecasting, evaluation of hydrological data and simulation of possible events for hydropower plants, placement of transmission and distribution system lines underground, installation of backup systems to allow pumping at low water levels, water recycling, use of rainwater or municipal wastewater, etc.
- *Technological and structural measures* - strengthening infrastructure protection against floods, designing wind turbines to make better use of high wind speeds, use of improved technologies that increase energy efficiency, improved cooling systems, decentralized electricity generation helping to bring production closer to the place of consumption, transnational electricity interconnections helping to obtain energy from undamaged areas, etc.
- *Education and training* - training people for developing information and data processing capabilities, modelling climate change impact scenarios for the energy sector, integrating climate forecasts into energy system planning, etc.
- *Innovation and restorability* - elaboration and periodic updating of security measures, emergency and crisis plans, technical and procedural measures aimed at reducing the time needed to restore the system after the occurrence of extreme weather events, etc.
- *Reducing energy consumption* - promoting cost-effective measures, energy labelling which will help consumers focus on more energy-efficient appliances, etc.

## 6. CONCLUSION

The frequency and severity of the effects of extreme weather events to which energy systems are exposed is constantly increasing. Extreme heat and very cold days increase the overall demand for energy. In addition, natural disasters such as droughts, floods or tropical storms not only affect the production and transport of energy but also damage the technological equipment itself. Heavy storms, windstorms or landslides often damage power lines. According to published data in the Slovak Republic, natural disasters are by far the most common cause of power outages. Despite a lot of uncertainties associated with the extent and timing of the effects of climate change it is essential to carry out increasing the resilience of the energy sector to the adverse effects of climate change. At present, it is necessary to focus especially on:

- compliance with the security and safety standards in terms of protection and construction of the energy infrastructure in order to increase the resilience to extreme weather,
- defining vulnerability zones in terms of infrastructure deployment on the basis of expected adverse climate change impacts on a given territory,
- analysis of the frequencies of regional situations "blackouts" in relation to extreme weather events and evaluation of potential developments in terms of increasing weather extremes.
- analysis of energy consumption during the winter heating season and summer heat in relation to active air conditioning of apartments and buildings and reassessment of the thermal energy strategy.

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# HUMAN ERRORS AS A SOURCE OF PERSONNEL RISK IN THE ENTERPRISE ENVIRONMENT

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## **ABSTRACT**

*At present, the human factor must be the focus of every business. The human factor brings a considerable degree of unpredictability and uncertainty to the performance of any activity in the enterprise, which can also cause a crisis situation. The aim of the paper is to evaluate the importance of the human factor in the company based on the results of our own research. Analyze human errors in the enterprise environment and propose a strategy for personnel risk management as a preventive measure to reduce or elimination. Process the results of the paper on the basis of scientific methods and selected mathematical and statistical methods. The main results of the paper show that most enterprises are aware of human errors and the associated personnel risks, but do not consider them to be the most serious. They are mainly aware of the mistakes of employees, but they do not pay enough attention to the mistakes of managers. Insufficient qualification of employees is considered to be the main cause of the human error of employees. The processed results are to convince business owners and managers that investing in human capital brings added value and prevents crises in the enterprise.*

**Keywords:** *Human errors, Personnel risk, Risk management, Enterprise*

## **1. INTRODUCTION**

The current situation in the world caused by the COVID-19 pandemic has highlighted the need to be prepared for adverse situations in the business sector. According to worldwide studies, it is proven that crisis preparedness can be achieved through the application of risk management (IRMI, 2020; IRM, 2020). According to a study by the Institute for Crises Management (2020), the number of major enterprise crises has increased by 80% since 2007 (ICM, 2020). When it comes to a crisis, it is much easier to prepare and prevent than to deal with the consequences. In case of any crisis in the enterprises, accidents, industrial accidents, or catastrophes, the cause of its occurrence is always sought (Lusková, 2015). E.g. according to Irshad et al. (2020) and Strielkowski et al. (2019), the causes of industrial accidents and disasters can be violations of production technologies, violations of the rules of operation of machines, tools, equipment, violations of regulations on repairs, incorrect organization of the production process. Behind all these causes is the human factor. According to Hammann, et al (2020), industrial accidents are often caused by machine failures, incorrect technological processes, the influence of various external factors, but also the failure of the human factor. The reason for the failure is most often insufficient qualification of employees, especially of potentially dangerous enterprises. According to the authors of Holla et al. (2016), who conducted a survey in the field of risk assessment of technological processes and the influence of the human factor on processes, it follows that the main causes of industrial accidents include the failure of the human factor. Other worldwide studies (IRMI, 2020; IRM, 2020; ICM, 2020) show that the failure of the human factor is considered to be the most common cause of serious problems in an enterprise, not only from the point of view of employees but to a large extent also of managers. Human errors by managers can cause wrong decisions that can lead to catastrophic financial

consequences (Kozubíková et al., 2015). If an enterprise wants to eliminate human error, it must have a clear and detailed risk management strategy (draft measures) (Simickova, Bugarova, 2020). The aim of the paper is to evaluate the importance of the human factor in the enterprise based on the results of its own research, analyze human errors in the enterprise environment and propose a strategy for personnel risk management as preventive measures to reduce them. elimination.

## 2. RESEARCH METHODOLOGY

The key methodological source is the results of our research. The main objective of the research was to identify the key business risks of enterprises in Slovakia and assess the sources of identified risks. In the 2019-2020 research, a total of 422 enterprise owners and managers in Slovakia participated in the research. The structure of the research participants was as follows with respect to the industry in which the participants' enterprises operate: 21.4% trade, 17.6% heavy/light industry, 15.7% construction, 11.1% transport and information, 10% other services, 6.2% agriculture, 5.7% accommodation and boarding, 3.2% trade services, 10% remaining services. Various scientific methods such as baseline analysis, querying, and statistical methods for data evaluation were applied to meet the stated objective of the paper. The baseline analysis was used in the process of identifying and solving the researched issue, e.g. an analysis of knowledge from professional literature and scientific papers to elaborate on the current state of the solved issue. The query method was applied using the online questionnaire tool. The online questionnaire allowed more efficient collection, sorting, and evaluation of data. The online questionnaire was created using the Google Form platform, which provides a suitable environment for data collection, as well as their sorting and export to MS Excel. The composition of the questions was based on the authors' own experience with the above-mentioned issues within the framework of solving various projects at the University in Žilina, an analysis of the current state of the solved issues in the world and the work experience. Basic statistical methods (percentage of data, graphical representation of results, etc.) were used to evaluate the data.

## 3. RESULTS

It is possible to summarize results based on the survey, which was realized in 2019-2020. The addressed owners and managers of enterprises in Slovakia should identify a maximum of three risks from the selection of seven business risks, which they consider to be key (being the key) ones in their business. Of the total number of 422 of the addressed Enterprises, the share of identified key risks for enterprises in Slovakia was identified: market risks 28%, economic risks 18%, financial risks 18%, personnel risks 15%, operational risks 9%, security risks 7%, and legal risks 5%. Personnel risks were identified as the fourth most serious ones as perceived by the owners and managers of the enterprises in Slovakia. The results of the research show that, although personnel risks are in fourth place, owners and managers are aware that these are serious risks. This is evidenced by other results, which indicate that the correct application of risk management is expected (Hudáková, Lahuta, 2020):

- 24,8% prevent damage to property and injuries to staff,
- 21,3% will increase the competitiveness of the enterprise and the resilience of the enterprise,
- 20 % the safety of staff in the workplace will be increased,
- 19,2% the costs of prevention will be lower than for dealing with the consequences of adverse events,
- 14,7% the chances of achieving the set goals and plans of the enterprise will increase.

The survey also shows that the largest sources of personnel risks are: insufficient employee qualification, high fluctuation rate, human errors and decline of the working morale and

discipline. Based on these results, it follows that insufficient qualification and failure of the human factor are considered to be the main sources of personnel risks in the enterprise. Therefore, it is important to monitor the reliability of the human factor as the prevention of personnel risks (Kotaskova et al., 2020). Assessing the reliability of the human factor is a comprehensive summary of information that clearly describes the course and results of a systematic and purposeful assessment of possible failure (Grabara, et al., 2019). It is a very complex and unpredictable process, which requires a perfect knowledge of the system, all objects, and equipment, but also the identification of personnel risks. It is important to know the knowledge, skills, and especially the characteristics of employees and managers who participate in the work process. The reliability of the human factor is the ability to perform work tasks within a specified time and working conditions, within certain deviations. If the specified deviation is exceeded, an error occurs and negative effects are sought, i. causes that cause the error. When assessing the reliability of the human factor, it is necessary to monitor errors in the work process from the perspective of executives and managers.

- 1) Based on the processed studies of the author's Šimková et al. (2013); Hammann, et al., (2020); Irshad et al., (2020), it can be stated that among the most common causes of **human errors of employees** are:
  - errors caused by momentary inattention,
  - mistakes caused by insufficient qualifications, skills i. training, education, and instructions,
  - errors caused by a lack of physical or mental abilities,
  - errors caused by a lack of motivation or non-compliance with work procedures,
  - errors caused by unsuitable working conditions and working environment,
  - intentional errors, etc.
- 2) Based on the processed studies of the author's Sinay, Kamenický (2013), Hammann, et al., (2020); Irshad et al., (2020), it can be stated that among the most common **human errors of managers** are:
  - wrong decisions of managers,
  - errors in the incorrect performance of managerial functions - ineffective management of people, insufficient creation of plans, poor organization, incorrect information of employees, inappropriate management procedures,
  - errors at work caused by pressure, stress, etc.

The main causes of these manager errors can be:

- insufficient knowledge, skills, experience,
- problematic traits - injustice, bias, pessimism, moodiness, insufficient self-reflection and self-criticism, indecision, superiority, unreliability, communication problems, excessive ambition, tendency to prefer one's interests, insensitivity, arrogance, or appropriation and alienation.

Based on the above, it is possible to generalize that there are two categories of human error:

- 1) unintentional errors, i.e.:
  - omission errors - errors due to inattention,
  - execution errors – erros arising from ignorance,
- 2) intentional errors.

Within the process of assessing the reliability of the human factor, attention should be paid to:

- 1) **Analysis of the reliability of the human factor before the occurrence of a potentially negative event** - t. j. identify and analyze the causes of errors resp. possible human factor failures. It is one of the most difficult parts of assessing the reliability of the human factor, but from the point of view of prevention, it is the most important.
- 2) **Proposal for preventive or corrective measures aimed** at elimination resp. reduction of human factor failure in the work environment of the enterprise.

#### 4. PROPOSAL OF A STRATEGY PERSONNEL RISK MANAGEMENT FROM THE POINZ OF VIEW OF PREVENTION

Based on the analysis of the reliability of the human factor, it is possible to propose preventive measures to eliminate or reduce the failure of the human factor and at the same time reduce personnel risks in the work environment. The proposed measures can be defined using relevant information obtained by the analysis and application of selected methods and techniques to assess the reliability of the human factor. The process of assessing the reliability and potential failure of the human factor needs to be linked to risk management in the field of human resource management (De Oliveira et al., 2017). Based on the above, it is necessary to propose a strategy for personnel risk management as a preventive measure to reduce them or. elimination, which can prevent the failure of the human factor in the business environment, fig. 1.



*Figure 1: Steps of the proposed strategy for personnel risk management to prevent failure of the human factor in the business environment  
(Source: authors)*

Selected methods and techniques of risk management, which are oriented to assess the reliability of the human factor and thus help prevent failure are, for example:

- 1) **The technique of Operators Review (TOR)** – used for qualitative analysis of the assessment of the reliability of the human factor.
- 2) **Human Reliability Assessment (HRA)** – it is used for qualitative and quantitative analysis of the reliability of the human factor.
- 3) **Poka-yoke** - it is used as a technical tool aimed at early detection of errors and subsequent prevention of their consequences.



There are many other methods and techniques used to assess the reliability of the human factor, such as:

- THERP (Technique for Human Error Rate Prediction) – procedures for predicting human error approach,
- SLIM (Success Likelihood Index Method) – successful method of probability indices,
- HRC (Human Cognitive Reliability) – reliability of human perception,
- CREAM (Cognitive Reliability and Error Analysis Method) – method of analysis and reliability of human perception.

#### 4.1. The technique of Operators Review

The Technique of Operators Review - TOR method makes it possible to predict possible errors and failures of the human factor, within the eight main functional areas, which can, for example, significantly affect the occurrence of major industrial accidents, fig. 2.



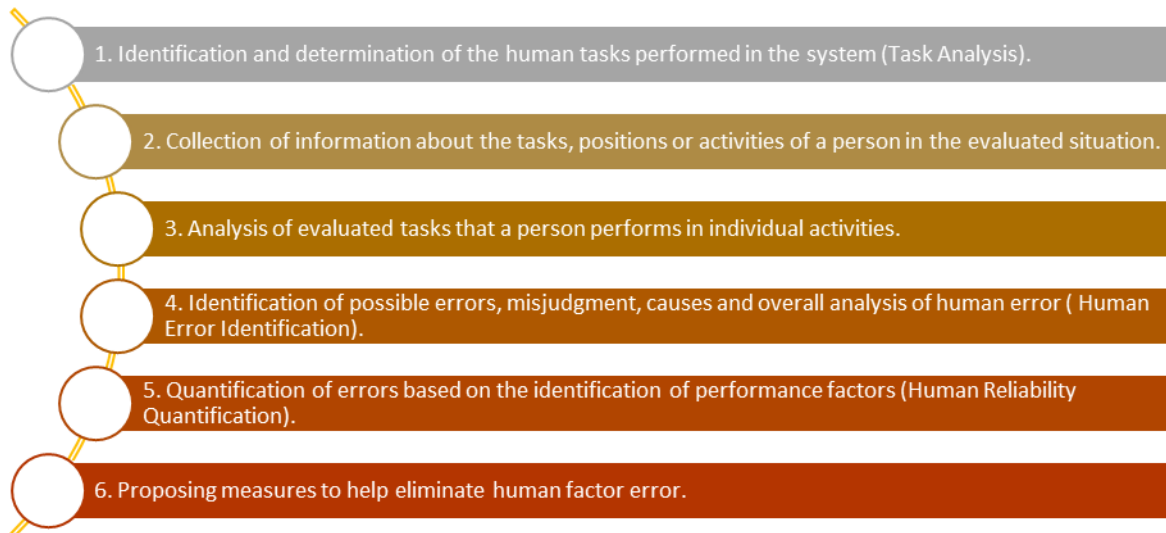
*Figure 2: The main functional areas for assessing possible errors and failures of the human factor  
(Source: Hollá, Moricová, 2019)*

The relatively simple application of the method makes it possible to find out the basic facts about the given system and the employee. Subsequently, it can determine the possible primary failure of the human factor, determine the potential causes of failure and their effects, evaluate systematic failures according to the selected type of error, and define realized measures. The advantage of the method is the ease of application (Hollá, Moricová, 2019).

#### 4.2. Human Reliability Analysis

Human Reliability Analysis – HRA deals with the human impact on system functionality and can be used to assess the impact of human error on the system. The aim of the analysis of the reliability of the human factor is to identify possible human errors and their causes. It represents a systematic evaluation of factors that affect the activities of operators, technicians, maintenance workers and other personnel in production. It systematically lists the errors that may occur during normal operation of the technology or in the event of an emergency, as well as the factors contributing to these errors and system modifications that may be designed to reduce the likelihood of such errors. Part of the analysis is to identify the important points of the system that are affected by individual errors and to determine the order of these errors in

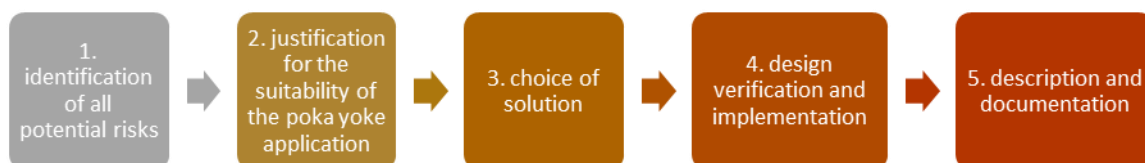
relation to others based on the probability of accidents or the severity of their consequences. Results can be updated with project or production changes. The procedure for applying the HRA method according to the individual steps is shown in fig. 3 (adapted according to Havlíková 2009).



*Figure 3: Procedure steps for the application of human factor reliability analysis (Source: Havlíková, 2009)*

### 4.3. Poka-yoke

The poka-yoke method is aimed at early detection of errors and subsequent prevention of their consequences, e.g. failures and mistakes. This is to prevent unintentional errors or even as an "error prevention action" in connection with the production process. The Japanese term poka-yoke refers to a principle consisting of several elements, which includes technical measures and devices to prevent errors, or their current detection. At the same time, it focuses mainly on unintentional errors that people can escape when interacting within production processes, and is intended to prevent a product error from arising from a faulty procedure. The starting point for poka-yoke is the knowledge that no human being, nor any system, is able to avoid completely unintentional mistakes. For machines and devices, error data can generally be determined without any problems according to standards. In addition, misconduct can be exacerbated by stress, environmental influences, and poor work environments. The procedure for applying the poka-yoke method according to the individual steps is shown in fig. 4.



*Figure 4: Steps to apply the poka-yoke method (Source: authors)*

The main use of the poka-yoke method is in the early detection of erroneous behaviour and in creating the possibility to prevent subsequent errors. At the same time, the number of control operations is reduced, which is also financially costly. In practical use, the poka-yoke system basically consists of two basic elements: the initiating, resp. trigger mechanism and control

mechanism. Trigger mechanisms determine how an error is detected in the production process. There are three methods, t. j. contact method, fixed value method, follow - up method. According to the type of measures to be taken after the detection of erroneous steps, it is necessary to divide the regulatory mechanisms into two methods t. j. intervention method (shutdown) and alarm method (optical and acoustic signals).

## 5. CONCLUSION

From the point of view of preventing personnel risks, it is very important to identify possible causes of human error in good time and subsequently implement effective measures. Reducing the probability of errors is one of the responsibilities of the enterprise's management, which can reduce this probability with appropriate tools. It is necessary to know the level of education of employees, their practical skills and experience, approach to work, sense of responsibility, personal activity, motivation, discipline, and a number of other characteristics that are relevant to their work activities. It is necessary to create platforms for training, education of employees, more effective implementation of control processes, and from the point of view of prevention to implement the risk management process through appropriate procedures, methods, and tools. It is also necessary for top management to create values within the corporate culture that will lead managers to a positive attitude towards risks and prevention in the enterprise. Values should be set for the right motivation, mutual cooperation (team management), advice on risks for all managers in the enterprise.

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## **REGIONAL DEVELOPMENT OF PORTUGAL: WHICH ARE THE REGIONS OF PORTUGAL WITH THE HIGHEST LEVEL OF ECONOMIC DEVELOPMENT AND WHAT IS THE INFLUENCE OF SOCIAL AND DEMOGRAPHIC FACTORS IN THIS DEVELOPMENT?**

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### **ABSTRACT**

*The interest about the development of the interior regions of the countries is increasing and is being supported by the European Union through financing, among others. Portugal, with its accession to the European Economic Community on January 1<sup>st</sup> of 1986, started to benefit from financial aid provided by the European Structural Funds. Over the years, investments have been made and measures have been created to promote competitiveness and development with the intention of reducing the economic and social disparities that exist between the regions of Portugal. The level of economic development in the regions influences and is influenced by the sociodemographic characteristics of the population, as well as by several other factors. These factors are simultaneously the cause and effect of the economic results of the regions. In this study we compared the regions of Portugal (NUTS II) through a wide range of factors: Population (e.g. aging, birth, migration); Education (e.g. education, number of schools, number of graduates); Health (e.g. number of health centres and hospitals); Social Protection (e.g. unemployment and social benefits); Living conditions (e.g. income and purchasing power); Security (e.g. level of crime); Employment (e.g. active population, unemployed, entrepreneurial initiative); Technological development (e.g. access to ICT, investment in R&D); Environment (e.g. environmental protection); Culture (e.g. number of cultural activities); Local Finance (e.g. revenues and indebtedness); Tourism (e.g. number of tourist accommodations, revenue from tourism) and Agricultural and fishing activity (e.g. monthly workers' remuneration). The aim of our study is to compare the regions of Portugal, in relation to the factors described, trying to understand to what extent the characteristics of the population and the economic and social conditions developed promote the development of the other factors. To this end, we prepared a database at the regional level, with data collected from the PORDATA database (Portugal Contemporary Database).*

**Keywords:** *Demographic, economic and social factors, NUTS II, Portugal, Regional development*

## 1. INTRODUCTION

Regional development policies are recent on a global scale. Regional policy aims to ensure economic and social cohesion between regions and promote their competitiveness. In a more traditional view, regional policies try to combat regional asymmetries, facilitating the mobility of productive factors and promoting the material and immaterial well-being of territories, through the redistribution and financing of collective facilities in favour of less developed regions. As the importance of combating these asymmetries is recognized, academic studies and political analysis have multiplied over the past few years. Our study does not focus on the analysis of policies and / or support for regional development. The objective defined by us is to compare the regions of Portugal (NUTS II) in terms of the average earnings of workers, considered here as a representative measure of economic growth. In addition, we analyze the factors that influence the increase in the average monthly earnings of workers. The factors considered were selected based on direct dimensions:

- Education
- Health
- Social protection
- Security
- Business / entrepreneurship
- Information and communication technologies
- Environment quality
- Culture and sport

This work is divided as follows: first, it presents the literature review where several factors are considered essential to the development of regions and the reduction of asymmetries between regions. Following is a description of the variables considered in this study, used to formulate the regression model where the dependent variable considered is related to the average gain per worker. The OLS regression analysis is complemented with the comparison of the regions with each other and in relation to the national average. Finally, the main conclusions, limitations, and suggestions for future research on this topic are presented.

## 2. LITERATURE REVIEW

One of the European Union's main objectives is to reduce economic and social inequalities. This goal is to be achieved both at the national and regional level (OECD, 2019). This concern has increased in recent years, with policies and support that promote the development of the regions, at the level of NUTS II and NUTS III. Regional development is a broad term but can be seen as a general effort to reduce regional disparities by supporting (employment and wealth-generating) economic activities in regions. In the past, regional development policy tended to try to achieve these objectives by means of large-scale infrastructure development and by attracting inward investment (OECD, 2019). Past policies have failed to reduce regional disparities significantly and have not been able to help individual lagging regions to catch up, despite the allocation of significant public funding. The result is under-used economic potential and weakened social cohesion. Silva & Ferreira-Lopes (2014) highlight that Portugal remains a country very much marked by regional asymmetries and in need of better regional governance mechanisms and policies. These authors developed a study where they create an index for regional development (NUTS III) and for that they highlight the importance of factors such as quality of life, health and access to knowledge, having subsequently pointed out the importance of political and environmental factors as being equally important to compare equality / inequality between regions. According to these authors Lisbon occupies the first position in the ranking, although three NUTS III regions that are in the interior moved into the top 10 in 2009 - Beira Interior Sul, Baixo Alentejo, and Alentejo - and other interior NUTS III regions

improved their relative positions in the ranking. The increase in interest in local economies and, in particular, in the way they create wealth and increase the quality of life, which agents are involved, which conditions and determining factors, fuel the growing interest of academics and policy makers. According to the Strategy and Studies Office of the Ministry of Economy and Digital Transition of Portugal, regional development policies arise from the need to promote the competitiveness of territories and reduce the economic and social disparities that exist between the regions of Portugal and, within the scope of European funds, also within the EU. Considering that, among other factors, a way to make competitiveness sustainable in the long term may be linked to the development of “clusters” that allow the use of agglomeration economies and positive externalities. Strategy and Studies Office (2014) highlights the observations of Porter (1990), which indicates that “clusters” have the potential to improve competitiveness in three different ways:

- Increasing the productivity of companies.
- Promoting the capacity for innovation in terms of products and processes.
- Stimulating the creation of new companies.

Several studies highlight the importance of entrepreneurship to boost regional development (e.g. Baptista, Escária, & Madruga, 2008; Rodríguez-Pose, 2013; Šoltés & Repková Štofková, 2016). However, regional development policies consider different dimensions - the role of cities, urbanism, accessibility and other geographic issues, demographic problems, environment, macro-regional strategies such as the organization of the territory, etc. - its effectiveness and efficiency being highly dependent on the participation of local agents (Strategy and Studies Office, 2014). Pauhofová & Stehlíková (2018) highlight in their study the relationship between unemployment and earned income. These authors report that the problem of high unemployment and the expected additional growth appears repeatedly among the main global trends, together with the increase in social instability. In their study the authors concluded that Slovakia continues to be affected by high unemployment rates, particularly in the long-term one. Tamásy (2006), in his study applied to Germany, highlights, among other factors, the impact of startups in reducing inequalities at the regional level. In this sense, it highlights the importance not only of the concept of entrepreneurship, but of the need to stimulate knowledge and the development of human capital. Gennaioli, Porta, Lopez-De-Silanes & Shleifer (2011) presented a highly comprehensive study by including 110 countries where they combine the cross-regional analysis of geographic, institutional, cultural, and human capital determinants of regional development with an examination of productivity in several thousand establishments located in these regions. These authors concluded that evidence points to the paramount importance of human capital in accounting for regional differences in development, but also suggests from model estimation and calibration that entrepreneurial inputs and human capital externalities are essential for understanding the data. In other studies, the emphasis is on innovation and technological development, which has shown an increasing importance for the reduction of regional inequalities and for the promotion of economic growth at national and regional level (Grillitsch & Sotarauta, 2020). Correia & Pereira (2007) refer that since the structure of the Portuguese business fabric is characterized by the predominance of medium and small companies, and given the limitations that much of the literature attributes to these companies in relation to their innovative capacity, it makes sense to explore the role that Universities - and the research developed there - can play in the process of knowledge production and dissemination. However, these authors concluded that the results obtained with this work do not allow to prove that the performance of companies is influenced by the proximity of Universities. Related to business activity, innovation and technological development are the conditions for access to information and knowledge sharing.

It is in this sense that information and communication technologies (ICT) assume an important role in regional development. The growing concern about the effects of the rapid development of ICT and its increasing integration in the daily lives of citizens and organizations has largely fostered debate in scientific and political circles regarding the relationship between ICT and Regional Development. Santinha, Marques, & Anselmo de Castro (2006) highlight that, on the one hand, there is a legitimate concern to promote equal opportunities, so territorial cohesion and harmonization is crucial. On the other hand, there is a concern to generate agglomeration effects that benefit social and economic development and justify differentiated action. Basically, it is a matter of avoiding being excluded from the advantage's framework of the present globalization of opportunities. Finally, but no less important, it is necessary to mention the environmental issue, which assumes an increasingly predominant role in academic and political discourses. Awareness of its importance has led to more studies that seek to determine the impact of environmental issues on national and regional development. This importance is present in the political measures implemented and aim to promote the development of the regions, guaranteeing the satisfaction of the needs of the population and at the same time guaranteeing an adequate use of resources. According to Gibbs (2000) some authors have argued that ecological modernization is a much more rigorous approach which focuses upon reconciling the tensions between economic development and ecological crisis to form a new model of development for capitalist economies. Gibbs (2000) states that the ecological modernization may have more to offer as a theoretical approach where it allows us to think about these problems of policy implementation. In terms of conclusion, we can say that regional development results not from a single factor, condition, or agent, but from all of them together, although differently from region to region.

### **3. DATA AND METHODOLOGY**

The purpose of our study is to understand which regions of Portugal have the greatest economic development. And our analysis was made by differentiating the regions of Portugal by NUTS (Nomenclature of Territorial Units for Statistical Purposes). This nomenclature was created by Eurostat in the early 1970s, with a view to harmonizing the statistics of the various countries in terms of the collection, compilation, and dissemination of regional statistics. The nomenclature is subdivided into 3 levels (NUTS I, NUTS II, NUTS III), defined according to population, administrative and geographical criteria. In our study we considered the division by NUTS II, given that for some variables under study there is still no information available for NUTS II. In this case, NUTS II refer to the regions: North, Center, Lisbon Metropolitan Area, Alentejo, Algarve, Autonomous Region of the Azores, and Autonomous Region of Madeira. Our dependent variable that represents the economic development of each region is the average monthly earnings of employees (AMEE). In addition to comparing the values of the average earnings of workers by NUTS II, we also seek to understand what factors contribute to the increase in these earnings. To achieve these objectives, we collected data from the PORDATA database, Database of Contemporary Portugal, organized and developed by the Francisco Manuel dos Santos Foundation. Our data are annual and referring to the period from 2009 to 2019. The variables were selected based on the literature review carried out, seeking to extend the research to all areas that could contribute, in some way, to the increase in the population's income. The selected variables were:

- Education: Resident population aged 15 and over without secondary education (%) (PD)
- Health: Emergency in hospitals (EIH)
- Social protection: Active beneficiaries of Social Security in the total resident population aged 15 and over (%) (ASSB)
- Social protection: Social Security pensions by beneficiary (SSPB)
- Security: Crimes registered by the police per thousand inhabitants (CRBP)



- Business / entrepreneurship: Density of non-financial companies (DNFC)
- Information and communication technologies: Private households with Internet connection (%) (PHWIC)
- Environment quality: Expenditure by municipalities on the environment as a% of total expenditure (EBMOE)
- Culture and sport: Expenditure of City Councils on culture and sport as% of total expenditure (EBCCCS)

To achieve the intended objectives, a comparison was made between the average values of the variables under study, and the effect of the explanatory variables on the dependent variable considered was subsequently analysed. As for the database, it is important to mention that the existence of 6.88% of missing data is not considered significant or harmful for our analysis and was imputed using the method of the adjacent value (Little & Rubin, 2002)

#### 4. RESULTS

In a brief analysis of the correlation coefficients shown in table 1, the high correlation of variables related to population education, crime, and density of companies in the region is highlighted, with the dependent variable under analysis (AMME). The relationship between Security (criminality) and active Social Security Beneficiaries is also highlighted, revealing here the need for extra support to increase the population's security through financial support (for example).

	AMEE	PD	EIH	ASSB	SSPB	CRBP	DNFC	PHWIC	EBMOE	EBCCCS
AMEE	1	,956**	,405**	,221	-,228*	,098	,961**	,480**	,490**	-,328**
PD		1	,469**	,194	-,291*	,163	,992**	,353**	,580**	-,446**
EIH			1	,101	,036	-,121	,490**	,083	-,023	,057
ASSB				1	-,567**	,711**	,268*	,285*	-,116	,139
SSPB					1	-,609**	-,307**	-,386**	-,067	,193
CRBP						1	,212	-,090	-,169	,046
DNFC							1	,376**	,506**	-,382**
PHWIC								1	,200	-,273*
EBMOE									1	-,645**
EBCCCS										1

*Table 3: Correlation matrix of variables  
(Source: the authors)*

The Pooled OLS method was used to estimate the parameters, considering robust standard errors.

*Table following on the next page*

constant	593.14*** (45.2)
PD	0.83*** (0.04)
EIH	-3.25x10 <sup>-5</sup> *** (3.82x10 <sup>-6</sup> )
ASSB	3.95** (1.51)
SSPB	144.09*** (36.85)
CRBP	-2.31** (0.77)
DNFC	-1.89*** (0.28)
PHWIC	2.02*** (0.18)
EBMOE	-8.53*** (1.22)
EBCCCS	8.41*** (2.09)
Standard deviation between brackets $R^2=.9854$ $F=8,98e+14***$ $N=77$ * p-value <0.1, ** p-value <0.05, *** p-value <0.01 The residuals are normally distributed and are not autocorrelated. Variables: AMEE (Average monthly earnings of employees); PD (Population density); EIH (Emergency in hospitals); ASSB (Active Social Security beneficiaries in the total resident population aged 15 and over (%)); SSPB (Social Security pensions by beneficiary); CRBP (Crimes registered by the police per thousand inhabitants); DNFC (Density of non-financial companies); PHWIC (Private households with Internet connection (%)); EBMOE (Expenditure by municipalities on the environment as% of total expenditure); EBCCCS (Expenditure by city councils on culture and sport as% of total expenditure).	

*Table 4: OLS regression (Dependent variable AMEE)  
(Source: the authors)*

All variables present in the estimated model are statistically significant considering a significance level of 0.05. The variables that contribute positively to the increase in the average income of workers are related to population education, social support, access of families to ICT and promotion of culture. The results are in line with expectations, except when it comes to the education of the population, given that apparently a population without complete secondary education contributes positively to the average monthly gain. In the same way, it appears that the increase in crime contributes negatively to economic development, identifying here the importance of promoting the security conditions of the population. Likewise, it is observed that the number of hospital emergencies has a negative impact on the average gain of people and, once again, the importance of investing in this sector is highlighted, guaranteeing conditions of better access conditions. Contrary to what one would expect, business density does not have a positive impact on the dependent variable. In the same way, the expenditure of municipalities in promoting better environmental conditions has a negative impact on the average earnings of workers. As a way of comparing the regions under analysis, the following is a graphical representation of their position in relation to the national average. As shown in figure 1, the metropolitan area of Lisbon stands out with higher values of average earnings for workers

(approximately 1,400), followed by the autonomous region of Madeira with average values of 1,060, these being the two regions above the national average (1,052). The remaining regions are still less than desirable, with average values below 1,000. Although there are no very marked asymmetries between NUTS II, it is important to complement the analysis based on the other variables, given that through the OLS regression it was possible to verify that there are several factors that can drive the increase in the average earnings of workers.

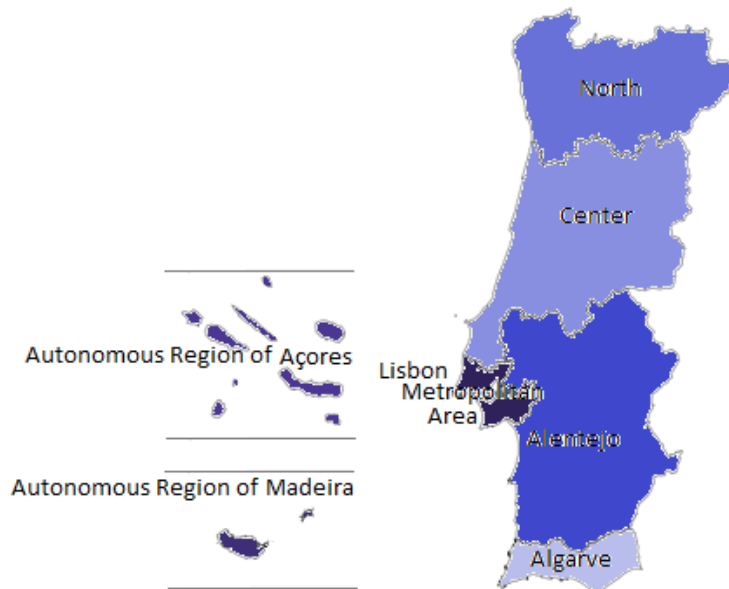
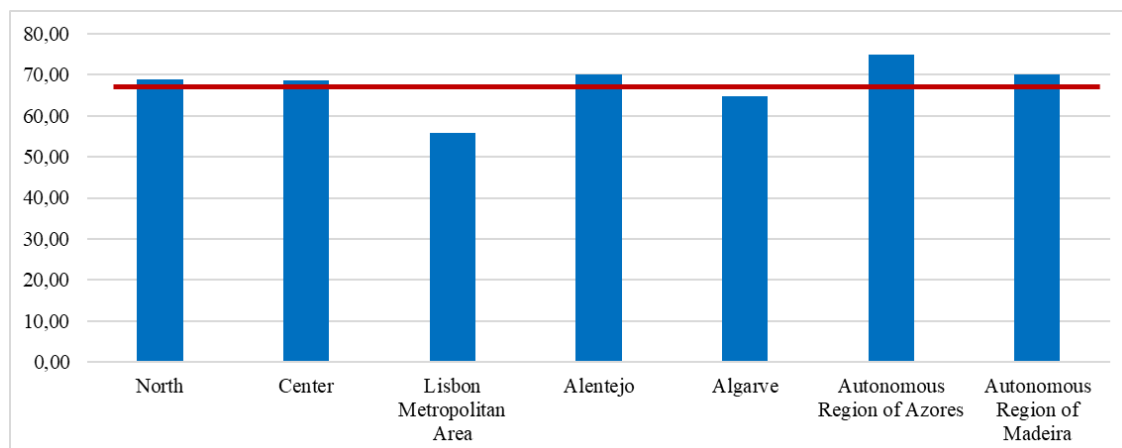


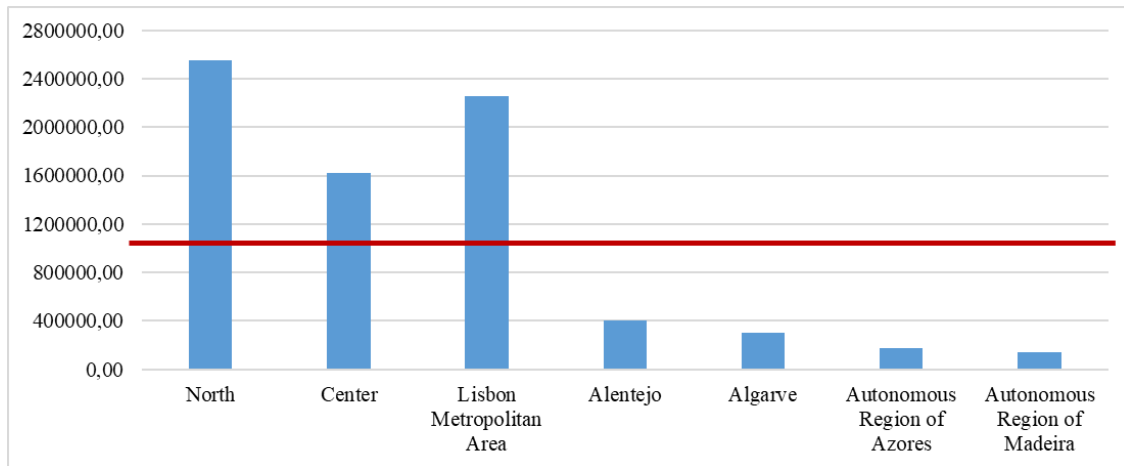
Figure 2: AMEE (Average monthly earnings of employees) by NUTS II  
(Source: the authors)

When analysing the position of each region in terms of schooling of the population, it appears that the Lisbon region is below average in relation to the percentage of population without complete higher education. According to other studies, the formation of the population contributes positively to the economy and, therefore, we are faced with dubious results and that lack in-depth study.



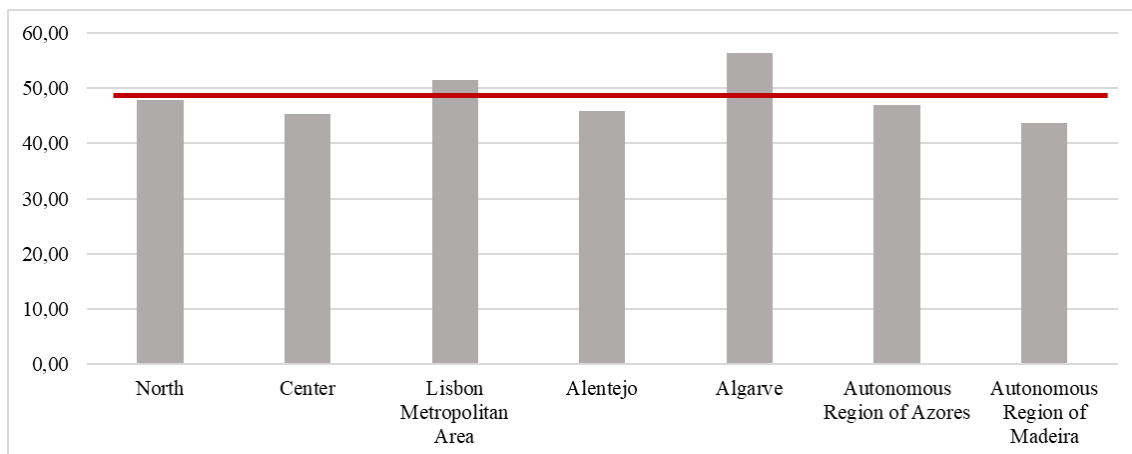
Graph 1: Population: Resident population aged 15 and over without secondary education (%) (PD) by NUTS II  
(Source: the authors)

Asymmetries in health are notorious, with the North, Center and Lisbon regions substantially above the average regarding the number of emergency hospital visits. This may be related to the existence of more health units, specialty hospitals and universities with higher education in health in these regions. In this way it will be understandable that it plays an attractive role for the population and consequently contributes to the economic development of the region.



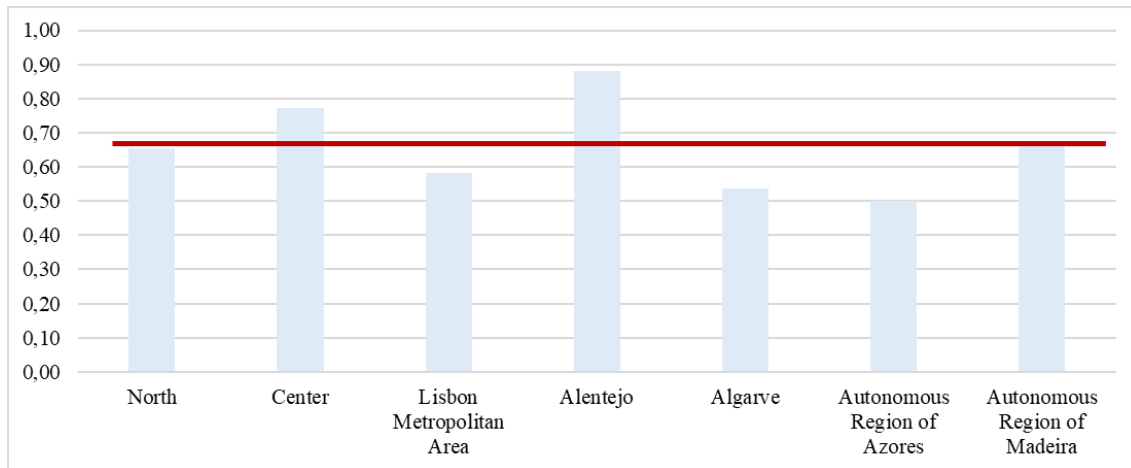
*Graph 2: Health: Emergency in hospitals (EIH) by NUTS II  
(Source: the authors)*

Graphs 3 and 4 include information on the social support granted by the State, with no significant asymmetries, although, as seen in the regression model presented, they contribute positively to economic development.

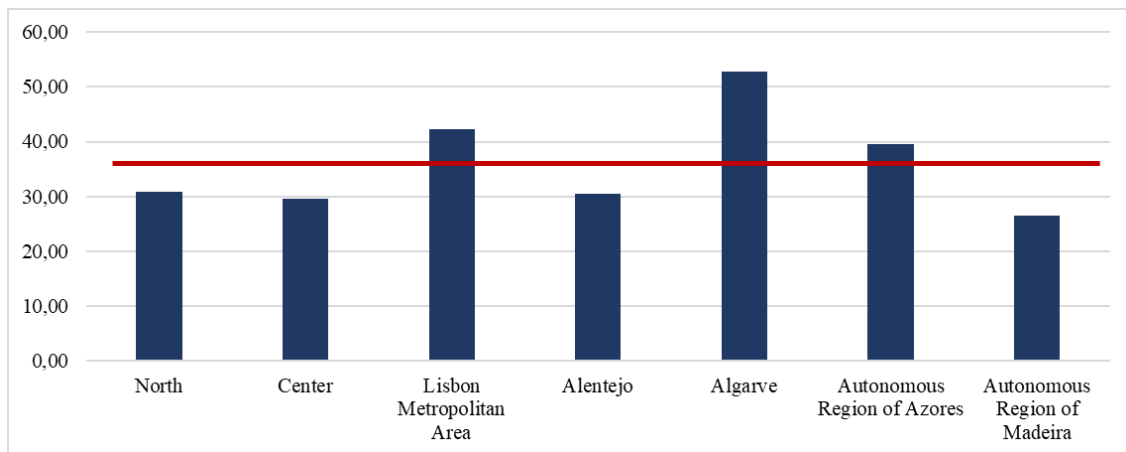


*Graph 3: Social protection: Active beneficiaries of Social Security in the total resident population aged 15 and over (%) (ASSB) by NUTS II  
(Source: the authors)*

*Graph following on the next page*



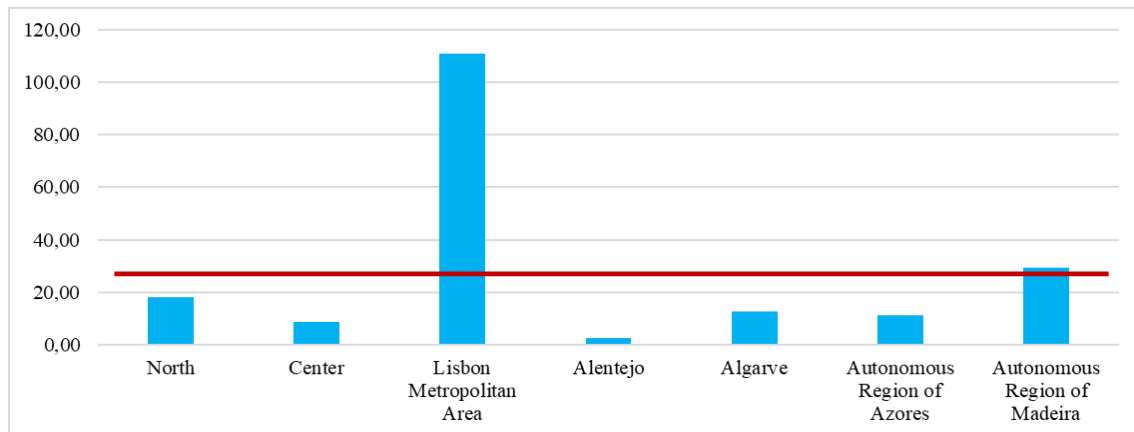
*Graph 4: Social Security pensions by beneficiary (SSPB) by NUTS II  
(Source: the authors)*



*Graph 5: Security: Crimes registered by the police per thousand inhabitants (CRBP)  
by NUTS II  
(Source: the authors)*

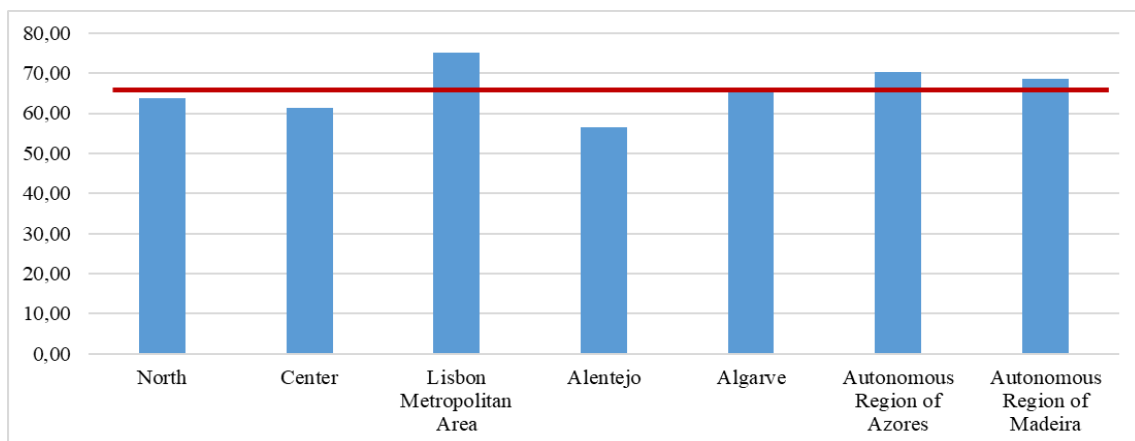
Crime is a factor of concern for policy makers, as it affects the quality of life of the population, affects the economic growth and development of the regions, the attraction of population and investment (Graph 5). Regarding business activity, the difference is noticeable with the Lisbon region concentrating most companies. This fact is undoubtedly a decisive aspect for the economic development of the regions, contributing to the increase in the average earnings of workers. It also works as an attractive factor for the population and investment, giving rise to positive linked returns.

*Graph following on the next page*



*Graph 6: Business / entrepreneurship: Density of non-financial companies (DNFC) by NUTS II*  
(Source: the authors)

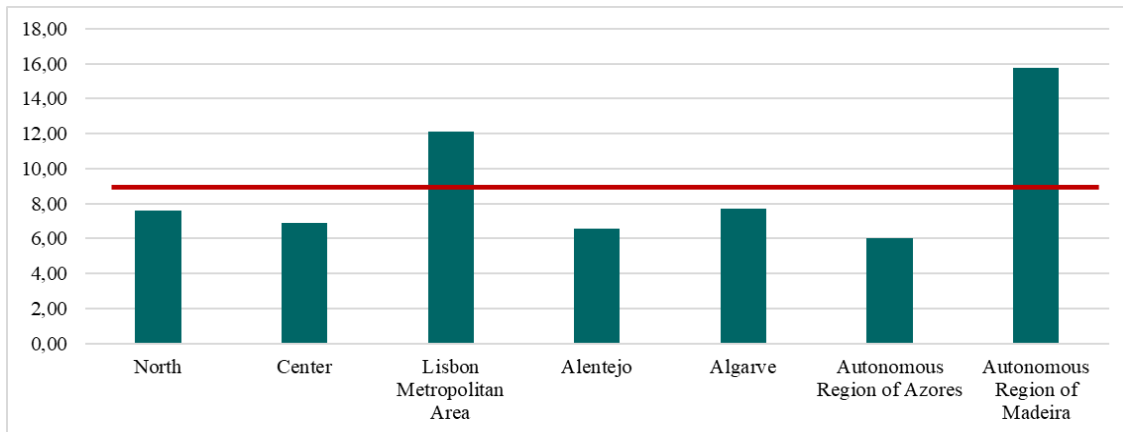
The increasingly important role of information and communication technologies stands out with different regions presenting relatively similar values when it comes to access to ICT by the population.



*Graph 7: Information and communication technologies: Private households with Internet connection (%) (PHWIC) by NUTS II*  
(Source: the authors)

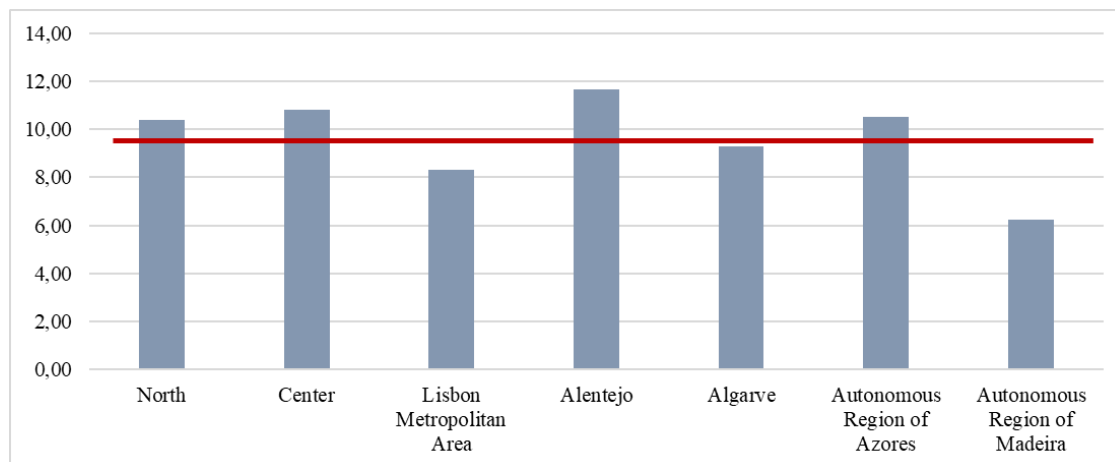
Even though in the estimated regression model, investments in environmental improvements show a negative sign in relation to the increase in the average earnings of workers, it is verified that it is precisely the regions that are above the average in terms of economic development, those that present the greatest affected investments environmental improvement. This fact deserves to be studied more rigorously, to understand this indirect effect on the economic growth of the regions.

*Graph following on the next page*



*Graph 8: Environment: Expenditure by municipalities on the environment as a% of total expenditure (EBMOE) by NUTS II  
(Source: the authors)*

The Lisbon, Algarve and Madeira regions are below average when it comes to investing in culture and sport. Since it was observed that this aspect has positive effects on economic growth, it is necessary to try to understand the reason for these investments below the average, namely the possible existence of cultural and sporting structures, and currently does not require increased investments. Or, on the contrary, these are regions that are gradually divesting in culture and sport. Or even, if it is the remaining regions that, recognizing the importance of these factors, they are making greater efforts to develop the regions.



*Graph 9: Culture: Expenditure of City Councils on culture and sport as% of total expenditure (EBCCCS) by NUTS II  
(Source: the authors)*

## 5. CONCLUSIONS, LIMITATIONS AND HYPOTHESES FOR FUTURE RESEARCH

Policy makers are concerned with leveraging the most important factors for the development of the regions and for that it is necessary to understand what these factors are. The development of the regions is not only done at the economic level and for that it is necessary to analyze and compare a set of aspects that define the development of the region and that influence the referred economic growth. The results obtained allow us to conclude that despite much that has been done to try to reduce the asymmetries between the Metropolitan Area of Lisbon and the other regions of Portugal, the truth is that the disparities are still accentuated. These differences are notorious both in terms of workers' earnings and in terms of the other variables considered.

Even so, it should be noted that the autonomous regions of the Azores and Madeira show a significant evolution, approaching the Lisbon region considerably. However, there are still questions that need further analysis, namely with regard to the education of the population, given that the results obtained do not allow us to undoubtedly conclude as to the impact that the formation of the population has on economic growth. In this way, this limitation can be overcome using other proxy variables such as analysis by different levels of education and / or areas of training. Likewise, the need to better understand how the investment by state agencies in improving environmental quality can positively impact the development of regions was identified. It is considered here that this impact may not be direct and then it will be necessary to consider other variables and analyze the mediating effect of environmental quality. Finally, another of the limitations that are worth mentioning is related to the fact that, in this study, the effect of tourism was not considered, which, according to the literature, is an important factor for regional development and an increase in average earnings of the workers. It cannot fail to be mentioned the delicate situation that the country is going through, with the macroeconomic impact of the pandemic and the economic recession without precedent, anticipating significant risks of interruption of the investment plans of companies and population. In this way, a new analysis should be considered that includes possible changes in the habits and behaviours of the population and that may increase / decrease regional asymmetries, seeking to deepen this analysis by NUTS III.

**ACKNOWLEDGEMENT:** To FCT project UID/SOC/04884/2019.

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## THE GLOBALIZATION OF WOMEN'S PROTESTS: THE CASE OF THE WORLD MARCH OF WOMEN

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### **ABSTRACT**

*The changes that globalization has brought to the world have given visibility to women's collective action. Women have always been actors in history, although they were ignored as a source of study practically until the 20th century. As historical "subjects" they promoted or participated in riots, revolts, demonstrations, marches and strikes over time, especially in the 19th and 20th centuries. Nowadays, they continue to manifest themselves and in the same way, as the alter-globalization movement World March of Women reveals, and despite the rights they have been achieving with globalization projection, they still lack recognition that goes beyond justice as stated by Nancy Fraser (2002). Through the use of a qualitative methodology, using news from newspapers, and a theoretical and conceptual framework derived from the theories of social movements, this study aims to analyze whether global protests have only brought visibility or effective achievements for women. The findings of this study suggest that even in the 21st century it is still necessary to use past methods such as marches on the streets to have greater visibility in the media and thus draw attention to the need for recognition of all women in the world.*

**Keywords:** *globalization, history, women, protests*

### **1. INTRODUCTION**

Globalization is a complex and diverse historical phenomenon that manifests itself in all aspects of society, especially in the economic field, where neoliberalism dominates international relations. According to Castells, this is a model that is both economically dynamic, socially exclusive and functionally planetary (Castells, 1987). In the contemporary world, globalization is more comprehensive and is felt in people's daily lives through communication and information networks, although with different intensity depending on the latitudes of the globe. As Gómez says, "Globalization does not consist of a single, one-dimensional process of economic change, but of differentiated multidimensional processes (economic, political, cultural, environmental), dynamic, contradictory and extremely unequal" (Gómez, 2000, p.131). In some parts of the world, globalization has brought more inequality and social exclusion for women, since the policy of priorities is not social capital but financial capital, but on the other hand, it facilitates the constitution of a collective gender identity through globalization of solidarities. According to Waterman "Globalization creates a world that can increasingly be experienced, by growing population sectors (although differentially and unevenly), as both real and universal, thus allowing for a universalism that is more than faith or obligation, a global solidarity that is more than a merely imagined community. The new global solidarity projects descend from, selectively rearticulate, allow for, but go beyond, religious, liberal and socialist universalisms; proposing neither a return to an unchanging golden past nor a leap into a perfect future – here or hereafter – they allow for and require a dialogue of civilizations and ages, a solidarity with both past and future" (Waterman, 2001, p.231). Solidarity implies the historical responsibility of some sectors of society for the subordination and oppression of others (Waterman, 2001, pp. 235-237). In the case of women, historical responsibility, knowledge and interest in their collective actions is recent. Indeed, historiography only began to take an interest in social issues, namely social movements, in

which female protests are inserted, in the early 20th century, with the School of the Annales (Burke, 1990). Until then, historical studies have focused on political, diplomatic, institutional themes, which is why the social and cultural history, in which the history of women is inserted, more specifically that of protests, has only had reference works since the 1960s - 70. History, moving away from 19th century positivism, opened space for the study of collective minorities, became interested in the history of those without history, that is, ordinary people, including in their studies the history of women, from that moment on these went from a biological category, to subjects who live and act in time. Henceforth, a “new historical specialty was born containing women as an object, making them subjects of history” (Louise Tilly, 1994, p. 34). The history of women made it possible to observe them in their social, economic and political relations, as well as to deconstruct the representations of the female role, which dictated that women had the tasks of home and procreation, built by male discourse. The history of women is recent, it was driven from 1970 much by the spread of Feminism. Issues related to women, which for a long time have been unknown or devalued, have attracted the attention of historians such as women's protests. Women have always been actors in history, although this visibility was only recognized from the moment their role began to be studied. As historical "subjects" they promoted or participated in riots, revolts, demonstrations, marches and strikes over time, especially in the 19th and 20th centuries. Nowadays, they continue to manifest themselves in the same way, as the movement for alter-globalization of the World March of Women reveals, and despite the rights they have been achieving, they still lack recognition that goes beyond social justice, as stated by Nancy Fraser (2002). Through the use of a qualitative methodology, using news from newspapers, and a theoretical and conceptual framework derived from the theories of social movements, this study aims to analyze whether global protests have only brought visibility or effective achievements for women.

## **2. THE FIRST WOMEN'S REVOLTS**

It is not easy for historians to discern the role that women played in popular revolts, due to the fact that, in most cases, they did not appear different in the documentation. It is common in the description of a revolt to refer only to mutineers, without referring to gender. And even when there were arrests and some of the insurgents became more visible, the percentage of women who appeared before the courts was on a much smaller scale. In Edward Thompson's opinion this happened, because it was often the women who triggered the riot, but it was the men who ended it. The initiative of the uprising was of women, to which the men joined, who ended up being alone at the end of the rebellion, mainly when the authorities appeared (Thompson, 1995, p. 360). Some works have revealed that they played an active role, namely in the subsistence riots of the late 18th and 19th centuries (Logue, 1979; Thompson, 1995). According to Edward Thompson, their prominence happened because they were more sensitive to problems related to the lack of cereals, the exaggerated price of them or the abusive practices by the traders. In Newcastle, a group of women, led by one Jane Bogey, rang the bells and rebelled and cut off the passage for horses carrying grain (Thompson, 1995a). In Birmingham, a group of "angry women" stoned a merchant with their own potatoes (Thompson, 1995). Because of their greater sensitivity to family starvation, they often triggered a spontaneous riot, which could start with shouting in front of a salesman's stall, or the blocking of grain cars from passing through a particular city. Their outburst was due to less fear of the law, either through ignorance or the privilege of their gender (Thompson, 1995). At the time, there was a certain blame for women, as for a long time they were considered unimputable. Women did not participate only in food riots. Today, the intervention of women in the French Revolution is unquestionable, although, at that time, the intervention of women in the public space or public square was “rejected by practically all men” (Hunt, 2009, p. 23). Her role was to take care of the private space, to take care of the house, husband and children, matters related to public life were dishonorable, as

Rousseau wrote to D'Alembert: “every woman in public who shows herself, dishonor yourself” (Perrot, 2008, p. 136). Despite the rigid distinction between genders followed in 18th century French society (Perrot, 2008, p.136), in Paris, some women organized women's clubs or became members of popular societies (Godineau, 1984, p. 574). It is clear that their “political” action was less organized than that of male “sans-culottes”, so their revolutionary word was often passed in the markets and streets where they used to walk. In this way, their organization was poorly structured, but it had the advantage of being more difficult to control and dismantle (Godineau, 1984, p. 574). It was then, from their fledgling societies or even from the street, that they participated massively in revolutionary struggles. Called the “set fire”, we find women at the head of the main Parisian insurrections. In the march on Versailles in 1789, they were the first to advance. In the spring surveys of 1795, they were the ones who rang the bells bouncing and drummed on the city streets. They used their creativity, the informal forms of performance, the old carnival rituals to mock the authorities and give form to the protests. They occupied the streets and urged men to action. But in spite of all this protagonism, they were excluded from political associations, from assemblies and, from May 1795, they were forbidden to join in the street in more than five. However, the male-dominated society has allowed these daydreams to narrowly time. After the revolution was over, they were returned to the «domestic sanctuary» that was reserved for them, given their «sweet and fragile» nature, and clubs were banned, as they should not leave their families to meddle in government affairs (Godineau, 1984, p. 575). After 1789, rulers reported that women were only allowed to participate in the revolution to console and encourage their comrades in their patriotic battle. Despite the silences of women in history (Perrot, 2005, p. 26), their protests in the streets show the absence of female passivity. Some, although a small group, from the lower bourgeoisie, were interested in politics and women's rights. Women who played an important role during the French revolution felt excluded from the rights propagated in the same revolution. The Declaration of the Rights of Man and Citizen (1789) said that all men were born free and equal, endowed with reason, with the exception of women. It is true that not all men were included here, only those educated or possessing goods, but women were totally excluded. Rousseau's social contract did not contemplate women as subjects of political rights, it relegated them to the private space, limiting them to their reproductive function. This Enlightenment philosopher, like others, exposed a very domestic view of the role of women. Condorcet was one of the few who advocated equality between men and women. In this scenario, it was the women themselves who defended their rights, even risking their lives, as did Olympe de Gouges (1748-1793). This fan of Condorcet's ideas demanded the public participation of women, in the Assembly, in the halls and on the streets. In 1791, he wrote the Declaration of the Rights of Women and Citizens, where he affirmed the equality of birth between women and men. Her political position eventually led to her death, she was guillotined in 1793, on charges of counter revolutionary. On the contrary, in the rest of Europe's urban space, during the 19th century, women's collective action was closely linked to demands for political rights, such as the right to vote. Many women participated in the workers' movement and the suffragettes made several demonstrations and public actions to obtain fundamental rights. The suffragette protests reached great proportions: occupation of streets, marches, rallies, hunger strikes, which led to aggression and public unrest. Many suffragettes were arrested, with Emmelyne Pankhurst standing out in this fight. This woman, born in 1858, was a women's rights activist and founder of the Women's Social and Political Union. Coming from the aristocracy, bourgeoisie and working class, women fought throughout the 2nd half of the 19th century for their rights, and even died for what they believed in, as was the case with Emily Davison, who died in 1913, when she threw herself into in front of the king's horse at the famous horse race in Derby. This first “wave” of female contestation was based on issues of political citizenship but also basic rights such as education, property and better pay.

According to Eisler "the work of hundreds of 19th century feminists has greatly improved the situation of the female contingent of humanity" (Eisler, 2007, p.218). However, it was only at the end of a period of much protest and due to changes in the historical context, at the beginning of the 20<sup>th</sup>, women's demands had political expression.

### **3. PROTESTS IN THE 20th CENTURY: FROM NEW SOCIAL MOVEMENTS TO GLOBAL MOVEMENTS**

The Wars of the 20th century, by mobilizing men to fight, opened up the public space for women and, although this space was very conditioned to the war effort, it allowed "the category "woman", who was in the situation until the 20th century of socio-economic exclusion and inferiority in the scale of social prestige "(Gohn, 2007, p.45), if affirmed. The Wars brought political and social changes, which were manifested in the post-war period by the emergence of a set of social movements: students, pacifists, ethnic, feminists, with a more identity and cultural nature, are the ones called New Social Movements (N.S.M.). For some of the theoreticians of the New Social Movements (Touraine, 1998; Habermas, 1986; Melucci, 1996) the protests in the sixties of the twentieth century, are the reflection of a new middle class (Habermas, 1986, Offe, 1985), less concerned with elementary materialist or social issues and more focused on universalist issues such as peace, the environment or gender. The golden age of capitalism allowed more individuals to have access to economic well-being, giving rise to a qualified, educated middle class, closely linked to public functions (Offe, 1985) and whose protests are no longer the result of industrialization but of post-industrialization, where conflicts no longer revolve around working capital and focus on cultural and informational issues. However, these new protests were joined by the actors of the old protests (Offe, 1985). The sixties were marked by great social protest. In the United States, more precisely in California, the hippie movement arose, against the Vietnam War, and with the proposal of a new way of life that contradicted the consumption and moral values of the time. His motto was "peace and love". Black Americans were fighting for racial equality led by Marther Luther King. European colonies were looking for self-determination. In Europe, the "May of 68" took place in Paris, when the students occupied the Sorbonne, questioning the academic order established centuries ago, in search of new cultural forms. In Portugal, the dictatorship of the Estado Novo was experienced, which did not prevent any contestation, including women. Even with the discourse of domesticity of the regime, in urban areas, the "opposition of women to the regime was felt around the struggles in the workplace centered on wage issues, defense of employment, eight-hour working hours and improving working conditions "(Tavares, 2008, p. 94). And despite the legal restrictions that hindered the autonomy and emancipation of women, there were some demonstrations, especially university ones, in which they participated. In the midst of this controversial effervescence there is an "eruption of feminisms" (Offen, 2008), although with different rates in European countries. In the sixties, women founded liberation movements inspired by feminists, such as Betty Fridan and her work "The Feminine Mystique", which intervened socially in search of greater freedom and equality. Medicine helped with the birth of the contraceptive pill, which revolutionized customs and gave women a sexual boldness, until then non-existent. This decade ended with women on the streets protesting. In late 1968, a gathering and women, about 400 activists from the Women's liberation movement tried to stop the Miss America contest in Atlantic City. They intended to build a fire to burn bras and other feminine accoutrements (Duffet, 1968). Although they were prevented from protesting by the authorities, the episode that became known as the "burning of bras" extended to Europe, where there were actually bonfires. In 1970, they went on strike in New York that brought 50,000 people to the streets. These manifestations of feminists, the sharing of common experiences, reflecting on the female condition and the role of women in society forged a collective identity (Melucci, 1989, 2001) and from then on their recognition as social actors.

According to Iris Marion Young, the various currents of feminism affirmed Feminism as the “most far-reaching cultural policy movement” (Young, 2000, p.150), it has become, thus, one of the great movements of the 20th century.

#### **4. GLOBALIZATION OF PROTESTS: THE WORLD MARCH OF WOMEN**

At the end of the century, in Europe and the United States, the feminist movement managed to ensure that some of the women's demands were heard and met by sectors of political and civil society. Discussions around topics such as sexuality, contraception and abortion, have dissipated as they became legal achievements. Women were able to affirm the female identity and from then on they rethought the model of performance in the public space, they sought internationalization and recognition and the feminist movement tried to gain dimension on a global scale. It was in this context that the World March of Women (MMM) movement emerged. The World March of Women is part of movements on a global scale. It brought together several international movements. Marching is one of the forms of collective action, alongside demonstrations, petitions, strikes, and it has been used throughout history (Debouzy, 2003, Pigenet and Tartakowsky, 2003) as a form of claim. This March, being of great dimension, intended to project the movement through the dissemination that it would have in the media and thus draw attention to its cause. As Sherer-Warren says, the purpose was “to produce visibility through the media and symbolic effects for the demonstrators themselves (in the political-pedagogical sense) and for society in general, as a form of political pressure of the most expressive in the contemporary public space” (2006, p. 112). The inspiration for the creation of the World March of Women came from a demonstration held in 1995, in Canada, when 850 women marched 200 kilometers, between Quebec and Montreal, symbolically asking for “Bread and Roses”. At the end of this action, several achievements were achieved, such as the increase in the minimum wage, more rights for immigrant women and support for the solidarity economy. MMM was inspired by the March of Bread and Roses, which took place in 1995, in Canada, bringing together 850 women who marched for ten days through the countryside of Quebec, asking and singing “Du Pain et des Roses pour changer les choses”. This experience, shared with women representatives of movements from different countries, served as an inspiration for the idea of a global initiative against poverty to be launched during the parallel forum to the Beijing conference, thus giving rise to the World March of Women. The World March of Women was not a one-time mobilization, it became a more permanent platform for action, defined as a global feminist network, which started on March 8, 2000 and was repeated in 2005 and 2010. The marches have a symbolic charge and, in most cases, the dates on which they occur are not chosen by chance (Debouzy, 2003, p.22). This is the case of March 8, International Women's Day. The motto of the 2000 march was the fight against violence and poverty. It had actions in more than 150 countries, involving more than 6000 groups of women (Tavares, Bento and Magalhães, 2004, p.11). At the end of the march, these participating groups wrote a document with seventeen points of claims to be delivered to United Nations Organization. This movement aspired for governments to take concrete measures against poverty and violence against women. This year's actions ended on October 17, with a demonstration in New York. On March 8, 2005, the MMM movement carried out marches all over the world where thousands of women were present on the streets. The march was for Solidarity and Diversity and aimed at political and social change. In the end, they drafted the World Charter for Women for Humanity. In this document, the values of equality, freedom, justice, peace and solidarity among Peoples are exalted. Between March 8 and October 17, it was proposed to each country to develop a square shaped patch for making a quilt, alluding to the Charter's proposals but with cultural specificities of each participating country, which resulted in a mosaic quilt of solidarity (Pingret, 2012, p.11). Between March 8 and 18, 2010, several marches took place around the world to mark the centenary of International Women's

Day. The actions of 2010, had the slogan “we will continue on the march until we are all free”. This year's events ended in Bukavu, Democratic Republic of Congo. The members of the March justified the choice: “To exert political pressure on governments and multilateral political institutions (for example, UN) to effect the necessary changes to improve the conditions and quality of life of women in the world, including a policy of disarmament and peaceful conflict resolution, the end all impunity, corruption, the use of rape as a weapon of war, occupations and foreign military presence, as well as the imposition of political and economic embargoes”(document 5 of the MMM). The MMM movement drew the attention of United Nations Organization that Treaties and Conventions only made sense when they were real for all Women. Globalization has further highlighted social inequalities and has shown that “the technological, labor, cultural, political and social changes of the last forty years have caused disruptions but have reinforced continuities in the oppression, subordination and exploitation of women” (Tavares, Bento and Magalhães, 2004, p.3). Thus, the use of walking was justified, a "weapon" that has always been effective in public protests, to draw attention to a cause. MMM is a worldwide network, like so many others, that is expressed in the World Social Forums. In 2003, at the Porto Alegre Forum, MMM feminists organized a panel on the theme “Human Rights (Tavares, Bento and Magalhães, 2004, p.10) ), being able, in this way, to have a more active participation. In Portugal, UMAR is part of this network and, as such, played a significant role in the Marches organized by MMM. These alter- globalization movements, by globalizing female resistance, contribute to the empowerment of women.

## 5. CONCLUSION

Over time, women have become aware of themselves as historical subjects. The social subordination to which they were voted, perpetuated by ancestral habits and customs, placed them in a position of disadvantage and injustice (Young, 1990). This awareness-raising process was redefining the role of women in social and political terms. Protest actions played a crucial role in this path, by allowing them to leave the private sphere of domesticity and reproduction to which they had been relegated by superiority and male domination (Okin, 2008, p. 308). Popular riots were the most visible expression of the first manifestations of women in the public sphere, their presence outside the home and the influence they had with the community. The liberal revolutions of the 19th century let women take to the streets, open revolutionary clubs, but they also knew how to make them return to their homes without even recognizing more privileges. Even the philosophers of Enlightenment who recognized universal rights, left out women, since those rights were for those who used reason and women were considered sentimental, linked to the world of emotions, hence they quickly took the lead. It was only in the twentieth century, largely through the action of the feminist movement, that some of women's demands became vested rights. Feminist social movements were achieving social and political benefits, at the same time that they sensitized public opinion to their cause. At the beginning of the 21st century, women's protests gained worldwide visibility with globalization, mass communication and social networks, and feminist movements began to act in networks of global movements, as is the case of the MMM movement. In this way they aim to empower all women in the world, as the achievements of European women are not yet a global reality. The MMM movement showed that acting in Forums and Congresses did not have practical results for the recognition of all women, because abuses, prejudice, violence, silences still exist, so the use of the March. The marches have always been used as a privileged action in the protest movements, because they do not imply political or ideological involvement (Debouzy, 2003, pp. 66-68), probably, the choice of this form of protest will have to do with the institutional and political autonomy that the movement wanted to give to this march for diversity, plurality and solidarity. Nevertheless, the march did not aim at institutional or political connotations aimed at achieving political changes for all women.

However, this study suggest that even in the 21st century it is still necessary to use past methods such as marches on the streets to have greater visibility in the media and thus draw attention to the need for recognition of all women in the world.

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## IMPACT INVESTMENT AS A FORMULA FOR SUSTAINABLE DEVELOPMENT IN BHUTAN

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### **ABSTRACT**

*A mature society should have its focus on humanism, work towards the well-being of each individual, protect the environment and build peace. Industrial and technological developments, the pressure of classic economic growth (that is, based essentially on numerical indices, such as GDP), have contributed decisively to a series of serious problems at global level. Despite the many advantages, the almost exclusive profit orientated goal has created serious social and environmental problems worldwide. Thus, economic reasons continue to lead the majority of global political decisions. In contrast, in recent years, new visions on the economy have emerged and have been tested by experts inside and outside the academic world with the aim of maximizing the quality of life and well-being of citizens as well as preserving the environment. Some concepts have been created with the aim of giving relevance to the social side of the economy, changing the capitalist paradigm and directing the investment to assets that generate financial results, but above all have a positive (social) impact - being this the basic feature of the impact economy. In this paper we're reflecting on the impact economy and the impact investment. We're also reflecting on the advantages of applying this concept to Bhutan's economy; a pioneering country in the application of policies and strategies oriented towards environmental sustainability and social well-being.*

**Keywords:** *Buthan, Impact Economy, Nature, Social Economy, Sustainable Development*

### **1. INTRODUCTION**

We live in a fascinating era in terms of technological evolution; however, humanitarian issues and the sustainability of the planet are urgent subjects on the agendas of public and private organizations. In terms of climate change, the Paris Agreement<sup>1</sup>, approved in 2015, seems a long way from creating the expected real actions; this is inferred from the fact that the Secretary-General of the United Nations convened an extraordinary Climate Action Summit<sup>2</sup> in 2019 (September 23) as recent scientific studies present data that are even more worrying than those of some years that warned to the Earth's degradation. Industrial and technological developments, the pressure of classic economic growth (that is, based essentially on numerical indexes, such as GDP), have decisively contributed to a series of serious problems at the global level. Despite the many advantages, the almost exclusive focus on profit has created serious social and environmental problems worldwide. In contrast, in recent years, new visions on the economy have emerged and have been tested by experts inside and outside the academic world with the aim of maximizing the quality of life and well-being of citizens and preserving the environment. The role of the economy, from the perspective of its most modern mechanisms, is fundamental for social and environmental objectives to be achieved, which is why it was considered very reasonable to reflect on the topics of impact economy and the impact investment. Global economy is a tightly interwoven ecosystem. In the private sector, strategies are geared towards the return of the investment, while the public sector seeks, at a minimum, some value for the money spent.

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<sup>1</sup> The Paris Agreement. Retrieved from: <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>. Last accessed in 07.10.2020.

<sup>2</sup> UN Climate Action Summit. Retrieved from: <https://unfccc.int/event/climate-action-summit-2019>. Last accessed in 07.10.2020.

The impact economy presents itself as a mechanism designed to capture value through the combination of financial, social and environmental returns. The economies of the so-called developing countries have been showing enormous potential for creating value, therefore many may also present great opportunities for investments with a positive impact. In this sense, the main objective of this work is to approach the application of impact investment as an ideal mechanism for contributing to the sustained growth of Bhutan's economy; a country that has been considered an example of sustainability and that puts the well-being of its citizens at the top of development policies. In order to better understand the advantages of applying impact investment and the possible positive effects on the economy of Bhutan, a brief study was carried out on impact economy and impact investment, as will be seen in the next chapter. Chapter 3 presents a summarized profile of Bhutan, referring to some of the main policies and challenges in the country today. Chapter 4 is devoted to reflecting on the benefits of the impact economy in general and for Bhutan in particular, and in chapter 5 the final considerations are presented. As a result of this study, it is understood that it is pertinent to state that impact investment can play a very important role in the sustainable development of Bhutan, and may even be the ideal model to attract foreign investors. This is an exploratory work in which reading was used as a methodology - in the perspective proposed by Quivy and Campenhoudt: "to select a small number of readings and to organize themselves to get the most out of them" (Quivy & Campenhoudt, 1995, p. 51). Regarding the relevance to the academy, but not exclusively, it is understood that this work is a part of the current discussions on how it is urgent to think about development, especially economic, through mechanisms focused on creating value, citizens and the environmental sustainability. Finally, it should be noted that the choice of Bhutan as an example of the empirical object studied is related to the professional projects that the author has been developing in this country within the scope of public investment programs. From the preliminary research carried out, no work with an approach presented in this study was identified.

## **2. IMPACT ECONOMY AND IMPACT INVESTMENT**

The concept of impact economy is very recent. It arises in the context of the social economy, but it intends to go beyond the most well-known concepts of corporate social responsibility or corporate shared responsibility, as will be explained later. The impact economy is also considered to be directly related to the concepts of development (not just economic development) and sustainability (social and environmental), as will also be described in this chapter. Despite being implemented worldwide by several entities and having the support of leading organizations such as the United Nations (UN), the World Economic Forum (WEF) or the World Bank (WB), impact economics is not yet an issue with high academic production. In order to better understand the context in which the impact economy arises, it is important to go back a little in time and review some historical landmarks, understand the main characteristics as well as the perspectives of several specialists. The impact economy is, therefore, a "highly integrated ecosystem of important actors focused on radically and fundamentally redefining sustainable value in various interest groups. An impact economy is, therefore, a very different system from the traditional capitalist economy that prioritizes only financial benefits. In an impact economy, consumers and shareholders challenge entrepreneurs and executives to show that they generate their profits in a way that contributes to the public good" (Martin, 2013, pp. 3-6). According to Martin's perspective (2013), everyone is involved in creating value. Where this value creation intersects - which happens, frequently and significantly - all parties can bring their resources and capabilities to support the creation of that value. An impact economy is, therefore, a "very different system from a traditional capitalist economy that prioritizes only financial returns" (Fine, Pandit, Hickson, & Tuinenburg, 2018, p. 5). In addition, a fundamental difference between economic impact organizations and their predecessors is the timeline in

which they “measure the creation of value” (Fine, Pandit, Hickson, & Tuinenburg, 2018, p. 10), given that traditional financial markets promote environments in which a company's short-term financial performance is increasingly important, often forcing long-term concerns, financial or otherwise, to lag behind. However, it can be said that this new initiative is not exclusively altruistic. It is oriented to generate profit, like any other business, because that is what makes it scalable and sustainable, but it is gaining visibility mainly because “new solutions are essential for society, especially due to the lack of traditional resources” (Acevedo & Wu, 2018). Although some of the fundamental ideas and practices for impact investing and social entrepreneurship originated some decades ago, it was in 2007 that a group of foundations and investors brought together by the Rockefeller Foundation launched the term “impact investment”, which was later defined as “investment designed to create a positive impact beyond the financial return” (Fine, Pandit, Hickson, & Tuinenburg, 2018, p. 4). As such, they require management of social and environmental performance, in addition to financial risk and return. The authors associated with the creation of the Brandenburg concept, Bugg-Levine, Leijonhufvud, O'Donohoe and Saltuk, say that they distinguish impact investments “as a more mature field of socially responsible investments (SRI), which generally seek to minimize the negative impact rather than proactively creating positive social or environmental benefits” (Brandenburg, Bugg-Levine, Leijonhufvud, O'Donohoe, & Saltuk, 2010, p. 5). Currently, impact investing is considered to be related to “to investments that aim to generate measurable social and/or environmental impacts, as well as a financial return. It is often described as doing well while doing good and is part of a broader strategy to transfer funding to more sustainable projects” (Commission E., 2016, p. 3). In addition, impact investments, as defined by the Global Impact Investment Network (GIIN<sup>3</sup>), are “investments made with the intention of generating a positive and measurable social and environmental impact in parallel with a financial return” (Dallmann, 2018). Over the past decade, efforts have been made to build a formal global impact investing industry. Impact investments take a variety of forms, including instruments common to those in traditional financial markets: equity and debt, guarantees or deposits are all examples of commonly used investment instruments<sup>4</sup>. As Jackson (2013) points out, market infrastructures, networks, platforms and methods were created to invest, to manage and to measure social impacts (Jackson, 2013). In this regard, academic research has been providing empirical evidence that impact investing has been successfully implemented in a wide variety of ways (Ormiston, Charlton, Donald, & Seymour, 2015), demonstrating that “government institutions, such as the Commission European Union and the G8 countries led by the United Kingdom, showed their support for impact investment ”(Acevedo & Wu, 2018, p. 87). However, in the philosophical debate, as stated by Drexler & Noble (2014) about “the 'label' of impact investment and whether something qualifies as an impact investment is equally important, but it should not prevent the involvement of investor investors” (Drexler & Noble, 2014, p. 9). For these authors, the ‘formal labels’ and delimitation of the concept are not concrete outlines of what’s “inside” and what’s “outside” when it comes to investing with impact. In this perspective, “If we consider that all approaches within the universe of sustainable and responsible investments have merit and can have a positive impact, then the experience in any of these approaches can be a ramp for future additional engagements with other approaches in sustainability and responsibility” (Drexler & Noble, 2014, p. 9).

<sup>3</sup> Global Impact Investment Network. Retrieved from: <https://thegiin.org>. Last accessed: 08.10.2020.

<sup>4</sup> Each investor and investment institution needs to evaluate whether impact investing fits with its investment principles, future growth plans and strategic constraints – and where it does fit, how it can chart its own course in impact investing that is visionary, practical and competitively positioned over the long run. See: Charting the Course: How Mainstream Investors can Design Visionary and Pragmatic Impact Investing Strategies. Retrieved from: <https://www.weforum.org/reports/charting-course-how-mainstream-investors-can-design-visionary-and-pragmatic-impact-investing-strategies>. Last accessed: 10.10.2020.

In addition, impact investments, as defined by the Global Impact Investment Network (GIIN), are “investments made with the intention of generating a positive and measurable social and environmental impact in parallel with a financial return” (Dallmann, 2018). In practical terms, impact investment already moves billions of euros. In this sense and in the sense of global sustainable development, it is admitted that impact investment continues to grow, in fact, as advocated by Dallman (2018), “impact investment is here to stay and grow exponentially over the next decade and beyond. It is simple, our future depends on it and people are finally understanding it” (Dallmann, 2018). To this end, it is believed that the role of global leaders will be decisive in raising awareness among individuals and those responsible for public and private organizations for the urgency of investing with a positive impact for society and for the protection of the planet.

### 3. THE LEADING EXAMPLE OF BUTHAN’S SUSTAINABLE DEVELOPMENT STRATEGIES

Few people in the western world have heard of Bhutan, which in Leming's perspective (2011) “is bad for the world who should know that a country like this really exists but good for Bhutan (...); a country that exists with very little outside influence” (Leming, 2011, p. 4). Bhutan<sup>5</sup> is located in the Himalayan region and borders Tibet (China) and India. The country's capital is Thimphu (in English; the approximate phonetics is tim-boo). Thimphu is connected to the rest of the country and India by roads with difficult access and is the commercial center of agricultural production in the surrounding valleys, being also the main point of production of textile crafts, also concentrating small food and wood industries (Gomes, 2013). Bhutan has a population of 826,678 inhabitants (est. 2020)<sup>6</sup>. At the end of the 20th century, rapid but orderly urbanization began in Bhutan. According to Gomes, “success in the management of forest resources was fundamental for the local environment and for the economy” (Gomes, 2013, p. 48). The same author states that “the strong link to Buddhism and environmental issues are elements that unequivocally define the country's national identity; the majority of Bhutanese territory is covered with forest and it is a crime to attack green spaces, especially against protected areas” (Gomes, 2013, p. 49). The preservation of Bhutanese traditions, environment and culture is enroled in the country's Constitution. In the late seventies, King Jigme Singye Wangchuk<sup>7</sup> agreed with Bhutan's political opening to the world, but it was always his concern to curb the westernization of customs and promote sustainable modernization for the country. This King is considered the creator of one of the most important concepts developed and implemented in the country. According to Gomes (2013) what distinguishes its identity like no other from that of other countries in the world, is the Gross National Happiness Index (GNH)<sup>8</sup>. The plan of the fourth monarch was mainly to transform the king's absolute power into a constitutional monarchy and to include happiness as the primary objective of his nation. Inspired by the Buddhist principles of compassion and harmony, Jigme Singye coined, in the 1980s, the concept of Gross Internal Happiness. The Gross National Happiness Index is intended to be an alternative measure to the well-known Gross Domestic Product” (Gomes,

<sup>5</sup> The Bhutanese name for Bhutan, Druk Yul, means "Land of the Thunder Dragon" and it only began to open up to outsiders in the 1970s. The Wangchuck hereditary monarchy has wielded power since 1907. BBC (2018) Bhutan Country Profile. Retrieved from: <https://www.bbc.com/news/world-south-asia-12480707>. Last accessed: 12.10.2020.

<sup>6</sup> The current population of Bhutan is 774,113 as of Sunday, October 18, 2020, based on Worldometer elaboration of the latest United Nations data. Bhutan 2020 population is estimated at 771,608 people at mid year according to UN data. Bhutan population is equivalent to 0.01% of the total world population. Bhutan ranks number 165 in the list of countries (and dependencies) by population. The population density in Bhutan is 20 per Km<sup>2</sup> (52 people per mi<sup>2</sup>). The total land area is 38,117 Km<sup>2</sup> (14,717 sq. miles). 45.8 % of the population is urban (353,445 people in 2020). The median age in Bhutan is 28.1 years. Retrieved from: <https://www.worldometers.info/world-population/bhutan-population/>. Last accessed in 18.10.2020.

<sup>7</sup> See: King Jigme Singye Wangchuk (reigned 1972–2006). Retrieved from:

<https://www.britannica.com/place/Bhutan/Government-and-society#ref838866>. Last accessed in 12.10.2020.

<sup>8</sup> It is considered that it was the inspiration to the creation of the World Happiness Report. Retrieved from: <https://worldhappiness.report/ed/2020/>. Last accessed 12.10.2020.

2013, pp. 49-50). For Lhamu, Rhodes and Rai, the concept of Gross National Happiness (GNH) “was designed to indicate that development has much more dimensions than those associated with Gross Domestic Product (GDP), and that it must be understood as a process that seeks to maximize happiness instead of economic growth” (Lhamu, Rhodes, & Rai, 2000, p. 170). This concept has been disseminated by representatives of the Government of Bhutan, giving it worldwide notoriety, the support of some stakeholders and government officials, as is the case with the leaders of the United Arab Emirates and Dubai<sup>9</sup>. In 1999, the Government of Bhutan created a program for the new millennium, called ‘Bhutan 2020: A Vision for Peace, Prosperity and Happiness’. As it will be seen from the extracts that follow, this plan is very clear about the concerns regarding the impact of modernization, innovation and development, especially regarding social and environmental factors:

- “Our past achievements should not distract us from the challenges ahead (...) some are more daunting than those we have addressed in the past.
- We must never lose sight of the fact that our country is the last surviving Himalayan Buddhist Kingdom and we must seek to maintain our identity, sovereignty and security as a nation state.
- Our future is dependent upon the articulation of an unambiguous cultural imperative (...) which compels us to adopt a discriminatory approach to the forces of modernization.
- Although we have a low population density, our population growth rate is among the highest in the world (...) the growth rate carries many negative consequences” (Commission P., 1999).

This document defined the guidelines for sustainable development policies for the country and which are the main concepts that the Nation was not willing to abdicate, as can be seen from the following conclusions included in the 'Vision 2020':

- “First, our development assets have been built over centuries. These cannot and should not be explained only in contemporary terms of GDP, comparative advantage, endowment of resources and savings and investment rates, and so on, however important they may be. Our understanding of development assets is much broader. For us, there are imperatives that transcend such narrow economist interpretations. They are linked to our formation and survival as a nation-state and can only be fully understood when viewed in its entire historical context.
- Second, in our worldview, the approach to the development and understanding of development assets is inextricably intertwined with our Buddhist system of beliefs, values and customs. Unlike many other developing countries, ours is a nation in which secular development is closely linked to religious history. It is a country that recognizes monastic institutions not only as part of a rich and glorious cultural heritage, but also as institutions that impact the daily life of the Bhutanese population and continue to influence the ways in which people think and act. In our country, the views of the Buddhist lama weigh no less than those of the development specialist.
- Third, and related to the above, our traditional Buddhist interpretation of development is often at odds with conventional development theories. These theories have no place for notions like *sangyal wai lam* (spiritual path) or *karmic* evolution. In our traditional perspective, poverty and underdevelopment should not be defined only in terms of the absence of wealth, but also in terms of the persistence of ignorance and prejudice. At the same time, many of the priorities now advocated by international development institutions, such as human development, environmental conservation, self-confidence,

<sup>9</sup> UAE Ministry of Happiness. Retrieved from: <https://u.ae/en/about-the-uae/the-uae-government/government-of-future/happiness>. Last accessed 13.10.2020.

decentralization, empowerment and gender sensitivity, are not new to Bhutan. Although we have not always referred to these priorities in today's preferred terminology, they have been essential components of the typically Bhutanese approach to development for decades.

- Fourth, the decision to travel an unexplored path could only be made by a nation that is proud of its history and is confident in its actions. This self-confidence has occasionally been interpreted by outsiders as arrogance. Such a misinterpretation represents a failure to understand the strength of our commitment to our own distinctive model of development. Without an understanding of this model and the forces and values that support it, it is impossible to explain the progress we have made in such a short period of time” (Commission P., 1999, pp. 22-23).

Despite this plan and others that the government presents every five years, from the point of view of environmental sustainability, Bhutan may become very precarious due to external influence, given that, as Protano-Goodwin argues, it is a country that it is absorbing more CO<sub>2</sub> than the amount it emits (Protano-Goodwin, 2019), due to harmful external influences. Bhutan is currently a carbon neutral country<sup>10</sup>. Neutrality is a term used to demonstrate that the greenhouse effect, generated by energy consumption (mainly by transports), industry and agriculture is avoided by the nullity of carbon emissions (Protano-Goodwin, 2019).

#### **4. IMPACT INVESTMENT AS A FORMULA FOR SUSTAINABLE DEVELOPMENT IN BHUTAN**

The impact investment ecosystem comprises at least four components:

- 1) the demand for capital,
- 2) the supply of capital,
- 3) the intermediaries and channels that link the two, and
- 4) the broader context in which all stakeholders operate.

The demand side includes a range of organizations that seek capital in order to generate financial returns and social impact. The supply side includes a range of asset owners and managers who make investment decisions, using a variety of forms of financing and which are coordinated by different channels and/or bodies. Most stakeholders typically operate within a broader political and regulatory framework that covers capital markets, economic development, social development, as well as the sector's specific focus, the social and environmental issue. In addition, markets operate within an evolving set of political, social and cultural norms and conventions<sup>11</sup>. Figure 1. describes the various actors, their position in the ecosystem (both on the supply and demand side) and the main forms of financing:

*Figure following on the next page*

<sup>10</sup> Bhutan is the only carbon negative country in the world. Retrieved from: <https://www.gvi.co.uk/blog/bhutan-carbon-negative-country-world/>. Last accessed 13.10.2020.

<sup>11</sup> Ecosystem Development – Evaluating Impact Investing. Syllabus for Executive Course. Retrieved from: <http://www.evaluatingimpactinvesting.org/syllabus>. Last accessed: 13.10.2020.



Figure 1: Stakeholders in the impact investment ecosystem  
(Source: G8 Social Impact Investing Task Force 2014)

Generally speaking, impact investment is considered appropriate when private capital can address social and/or environmental challenges in innovative ways, while pursuing commercial viability. Impact investment can also address public failures, but, by definition, it is not a solution when there is no viability for the business. It should also be noted that impact investment is not a substitute for providing social services or philanthropy. On the contrary, it aims to complement and expand the range of options available to promote sustainable development, boost innovation and achieve a positive social and environmental impact. Impact investors can also pave the way for broader public interventions by underwriting risks that cannot be assumed by public market intuitions. The potential for obtaining returns on impact investment is comparable to traditional investments and, although they are slightly lower depending on the benchmark, objective-oriented people and investors are aware of the importance of changing expectations regarding the greatest benefit to society. In this context, Dallman's perspective is recognized as very interesting, emphasizing that collaboration is crucial and that all stakeholders in society can contribute, including individuals, investors, financial institutions, governments, policy makers and regulators (Dallmann, 2018). From the visions and perspectives studied and described in this and previous chapters, we can consider that the ecosystem created by impact investing, based on a perspective of collaboration and alignment of values, presents itself as the ideal formula to attract investors who wish to create a positive impact in the country - in this case, a country that places well-being, happiness and preservation of the environment at the top of its development strategies. It is important to emphasize that this 'formula' - the impact investment - among others with less global visibility, has already been analyzed by the Bhutanese Government in the context of the work developed and presented by the Bhutan and Happiness Study Center in which the application of Happiness to Business is also proposed.



## 5. CONCLUSIONS

In my point of view, with this reflection it was possible to demonstrate that there are pragmatic and visionary approaches that individuals and organizations can use to improve the state of the world. It was possible to verify that the actions of pioneering investors led to the creation of a new concept within the financial markets and laid the foundation for impact investing to become increasingly relevant. In the coming years, the challenges faced by the impact investment sector will evolve as more participants enter the market and the sector grows. More specific data will certainly be released on the risk and return characteristics of the investment impact, as well as on the correlation between impact and long-term value. A more sophisticated and mature investment market, as referred by Fine, Pandit, Hickson, & Tuinenburg (2018) will emerge through the work of incubators, accelerators, universities, public-private cooperation, as well as partnerships between traditional investors and investors of impact. When that future arrives, investors who have taken the time and effort to chart their own course in impact investing with the investment strategies, organizational capabilities and ecosystem involvement best suited to their institution will have a competitive advantage in the market (Fine, Pandit, Hickson, & Tuinenburg, 2018). Given the extent of the world's social and environmental challenges, a major increase in the scale and reach of the impact economy is urgently needed - and it will be difficult to achieve. Investors, entrepreneurs, governments and other stakeholders will need to overcome their own practical constraints and prepare to take on new roles. These individual efforts will be complicated by the dynamics of convincing multiple stakeholders to agree to the changes that must occur and compelling them to work together, rather than looking for individual agendas. An essential first step will be to agree on a shared vision for impact economy. With this vision in mind, stakeholders in the impact economy can together achieve initial successes that will provide motivation for a continued and sustained effort. None of this will be easy, but as the impact economy matures, it will bring new rewards for stakeholders, while increasing the well-being of people around the world (Fine, Pandit, Hickson, & Tuinenburg, 2018). However, as advocated by the OECD and the World Bank, there is much more that needs to be done to bridge the funding gap to achieve the Sustainable Development Goals (SDGs) by 2030 and help the world to tackle irreversible consequences. In relation to Bhutan, the study allowed to infer that this innovative mechanism (impact investment) of financing the economy can be effectively the ideal instrument for attracting foreign investment. It is true that the government of Bhutan intends above all to align investments with the national program of happiness and well-being, as defended in the Program for the application of the concept of Happiness to business, which from our point of view makes perfect sense. Nevertheless, it is believed that greater visibility of Bhutan and its investment opportunities with impact investors is needed. In future research, we intend to deepen the study on the profile of international impact investors, the main existing projects on a global scale and on the impact investment opportunities in Bhutan. Likewise, it is considered very relevant to study the mechanisms that could be proposed to the government of Bhutan with the aim of creating greater visibility for their projects with key players, naturally without interfering in the country's identity and values.

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# MANAGEMENT PRACTICES AS POWER DEVICES IN HIGHER EDUCATION

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## **ABSTRACT**

*This article addresses neoliberalism within the scope of the quality agenda in higher education, specifically in aspects related to the work of professors. The research question that guided the investigation was: Does neoliberalism employ techniques of power over the conduct and subjectivity of individuals? The methodology employed here was the theoretical-bibliographic study, resulting in a qualitative approach. The analysis began from the perspective of Michel Foucault on disciplinary power, within the scope of higher education policies in Brazil, placing them in a neoliberal context. The conclusions indicated that Brazilian Higher Education Institutions followed the logic of market competition, in which the market is conceived as a process of self-formation of the economic subject, a subjective self-disciplining process through which the individual learns how to lead. Circumstances that impacted the professors' work, guided by management practices that act as power devices, are reflected in the conduct, or rather in the standardization thereof, and consequently in subjectivity. In this scenario occurs the intensification of controls, suffering at work and personality corrosion as examples of effects that make up the set of diagnoses that can be observed in the academic environment. The professor, or the new subject (neo-subject), the man produced by competition and performance, is faced with the effects of practices that emerge from neoliberalism. Thus, neoliberalism is not restricted only to the economic sphere, but crosses and involves all dimensions of human life.*

**Keywords:** *Appraisal, Brazil, Higher Education Institution, Quality*

## **1. INTRODUCTION**

Neoliberalism, in addition to being an economic policy, is also a rationality that is inclined to structure the actions of the government and the conduct of the governed. Neoliberal rationality is characterized by the propagation of competition as a standard of conduct and the company as a model of subjectivation (Dardot & Laval, 2016). Conjuncture where the market is conceived as a self-formation process of the economic subject, a subjective self-educating and self-disciplining process, through which the individual learns to lead. The market process builds its own subject. It is self-constructive. Having said that, more and more often in a market situation, the individual can learn to behave rationally. Thus, this time, indirectly, the type of action linked to the neoliberal governability is sketched: the creation of market situations allowing this constant and progressive learning. This science of choosing in a competitive situation is, in reality, the theory of how the individual is led to govern itself in the market (Dardot & Laval, 2016). Government with a systemic character of the management mode based on individual responsibility and self-control, where the individual must govern itself from within by means of a technical rationalization regarding his relationship with itself. In face of the neoliberal scenario, with the implementation of new management practices in the context of higher education, and considering that in Brazil, as in many other countries, quality assurance has become a management practice stemming from the neo-liberalism. This new type of management based on tools such as evaluation, is considered to be a powerful lever for individual competition and defines new modes of subjectivation. In addition, the direction of the government aims to obtain a self-government from individuals, in other words, to produce a certain type of relationship of it with himself (Dardot & Laval, 2016).

In view of this, focusing on the case of management practices within the scope of Brazilian higher education, this research aims to contribute with the knowledge identifying how neo-liberalism employs techniques of power over the conduct and subjectivity of individuals, from the theoretical perspective of Michel Foucault, namely in the context of power.

## **2. TRANSFORMATIONS IN TEACHING ON THE BRAZILIAN HIGHER EDUCATION**

Higher education (HE) in the world and in Brazil have undergone transformations. It is a context of thinking and managerial management about the New Public Management (NPM), which has been gradually introduced in universities in several countries, including Brazil. This context of transformations, present in the last decades in the HE, results from the implementation of devices oriented to measuring the performance and quality, in return for obtaining more autonomy, thus moving away from traditional forms of administration and adopting new ways of management that are characteristic of the managerialism (Morley, 2003; Santiago et al., 2005). The growing change from a model based on the control of the State and teachers (professional control) for a different model, based on the combination of market and State, and the insertion, by the latter, of a more vigilant conduct regarding the system and institutions of ES, signals the beginning of a new configuration about the state's performance, entitled, by several authors, as an Assessor State (Neave & Van Vught, 1994). In this context, also in Brazil, the principles of the reform undertaken, especially since 1995 with the Reform of the State Apparatus, were based on the NPM, whose focus is on the adoption of private management tools within the public sector. Those reforms of the State and of education opened space for the business management in education, at the same time when it determines the democratization of its management. Thus, the managed management, focused directly in efficiency and efficacy, promotes the management of itself. Thus, in the realm of the HE, among the several elements central for NPM are the surveillance (by means of evaluation) and the measurement (by means of performance) aiming to increase the products (and services) and to beat the competition. In this context, Boitier and Rivière (2013) argue that performance management systems provide a regulatory framework as well as a framework for standards (performance based on goals and indicators) and a framework of values (related to tasks entrusted to the higher education system). The insertion of quality and its repercussion in the HE, in Brazil, are the result of the government's role as a regulator of HE and the competitive scenario of Higher Education Institutions (HEI), with the public demand for transparency about the quality of education. The evaluation of HE, in the context of the State Reform, became an instrument to control the quality of the education by the market, understanding the competition between institutions as the best way for controlling the HE. Therefore, in the pursuit of excellence, quality becomes a relevant differential factor for the highlight and survival of HEIs in the market. Numerous factors must be fulfilled in order to achieve excellence and public prominence, from the standards established by governmental control, accreditation and audit bodies, to differentials such as course management, infrastructure and the academic production of the faculty (Pereira et al., 2018). In the Brazilian case, and with current applicability, there are Sinaes, which were created at a time when evaluation was an instrument of control by the market of the private expansion in the "HE". In the scope of the ES highlight "privatization, outsourcing and publicizing the results of external evaluations" (Santana et al., 2016, p. 527) stands out, a managerial educational policy that justified the actions of the educational market among HEIs. With this, the State started to decentralize its actions in order to reduce responsibility, guaranteeing quality by means of the accountability of institutions. It is important to highlight that the centrality of the performance examination is the basis for the regulatory frameworks of the HEIs, and the logic of Sinaes arises from the constitution of rankings by means of results published. The criteria that constitute the framework of educational evaluation, within the neoliberal

rationality, are indicators and parameters for the evaluation in a classificatory phase, which is comparative, as well as scalable. In this conjuncture of changes in the management of HEIs, the charges and consequently the pressure permeate the internal and external environments. Santiago et al. (2005) points out the control mechanisms, such as evaluation and systematic monitoring, as mechanisms that have led to the introjection and to the naturalization of managerialist principles among teachers. Some studies prove (Reed, 2002; Santiago et al., 2005) an interiorization, by the teachers themselves, of a need for searching for quality dictated by the market, especially when the results of their works can be considered as means of achieving more social recognition and professional prestige. From these considerations, it is clear that the Brazilian reality is, in many aspects, similar to what happens in other countries with regards to quality in the HE. Particularly, this happens because the concept of quality is relatively autonomous from the mechanisms of quality assurance.

### 3. DISCIPLINE AS A TECHNIQUE FOR THE FABRICATION OF USEFUL INDIVIDUALS

Michel Foucault is considered to be one of the most important thinkers of the past fifty years. In his works, the French philosopher discussed topics related with the issue of the formation of knowledge and of the discourses of truth, power relations, the construction of subjectivity and the government of itself and of others (Rabinow & Dreyfus, 1995). Foucault (2014) deals with the evolution of the criminal legislation, punitive means, from physical violence, torments, until the modern methods, the prisons. In this context, the author analyzes the transition from punishment to surveillance. The French philosopher suggests that “in any society, the body is trapped within very tight powers, which impose limitations, prohibitions or obligations” (Foucault, 2014, p. 118). What is central and recurring in Foucault is the question of manufacturing the subject. This subject is the element instituted that is located in the space delimited by the three axes that support his ontology of the present: of the present, because it is not transcendental - relativistic and three-dimensional: “being-knowing”/“being/power”/“being/self”. “Being” is the constant on the tripod. Each one of the others - knowledge, power, self - enter as elements that shape the individual and transform it into a subject (Veiga-Neto, 1996). The practice of subjectivity, or subjectivation, refers to forms of the constitution of the subject, and Foucault points out different ways of subjectivation and also of objectification of the subjects. In the case of subjectivity, the discourse is the tool enabling the apprehension and constitution of subjects by “places” outside them (Veiga-Neto, 1996; Candiotta, 2011). The objectification of the subjects, whether with regards to self-care (the subject is aimed as a subject of identity), or with regards to determinations from another (the subject is interdicted, segregated, etc.), presents itself as effect of a subjectivity produced by exteriority, which implies inscriptions from subjects in the speeches. These speeches, like subjectivity, are not fixed and are always in production and transformation, marked by discontinuity (Lynch, 2018). Therefore, what characterizes Foucault's approach runs through the fabrication of the subject, the subjectivity, which emerges from the discourse and which reflects on how this subject directs its life (public and private). In this regard, we take Lynch argument (2018) that expresses the understanding of subjectivity as constituted (in part) by means of power relations, not denying that the subjects can act intentionally. For Foucault, there is not a theory of power, however, he defends the existence of power relations, in other words, “*Disparate, heterogeneous forms, in constant transformation. The power is not a natural object, one thing; it is a social practice and, as such, historically constituted*” (Foucault, 1995, p. 199). Under the perspective of power, Foucault also refers to two “economies of power” that imply different regimes of power: the action of punishing by destroying the bodies, characteristic of the feudal way and the practices of surveillance, and the correction investing the bodies, typical of modernity (Prado Filho et al., 2014).

It should be noted, at this point, that the differences between these two economies of power bring into play: torture versus imprisonment; the “destructive” power of causing death versus the “positive” power investing bodies and life; the power based on the principles of law and sovereignty versus government techniques supported by disciplinary and bio-political practices (Prado Filho, 2006; Prado Filho et al., 2014). From the perspective of disciplinary power, another aspect that can be highlighted is that the disciplines are a concrete demonstration of the positivity and productivity of power, in several senses: of economic production, production of societies, production of relationships, speeches, bodies (Prado Filho and Geraldini, 2012; Prado Filho et al., 2014). In this context, Prado Filho et al. (2014) corroborate that the biopolitics is presented in contemporary times, under the government as a powerful, comprehensive, articulated, fine and subjectivating technology, composed by diverse aesthetics and dietetics that unfold in a multiplicity of prescriptions and regulations of the body, health and life, in addition to requiring a whole set of works of the subject about itself. The appropriation of bodies goes through the process of discipline, which reveals the dynamics of power relations in face of economic changes. [...]. A policy of coercions is then formed, which are a work about the body, a calculated manipulation of its elements, its gestures, its behaviors. The human body enters in power machinery that scans, dislocates and recomposes it (Foucault, 2014). In addition, Foucault argued that it is a mistake to classify power as fundamentally repressive, which says “no”, which punishes and imposes limits. Therefore, it adds a positive conception of power that aims to understand power free from terms such as domination and repression (Prado Filho, 2006; Candiotta, 2011). In this context, Taylor (2018) argues that the exercise of power happens when the individual has its behavior shaped by certain means and acts without being forced, acting by “its own desire” - free. Power develops in a first instance by means of specific, local and individual choices, behaviors and interactions (Lynch, 2018). Those, in turn, combine with countless ways of constituting larger social standards and, eventually, they produce macro-forms, which normally present themselves when one thinks about “power” (societies, states) (Prado Filho, 2006). Therefore, Foucault provides elements that allow to visualize until which point the idea of being a subject is implicated in the relations of disciplinary power, or that certain power relations originate or produce the notion of subjectivity (Taylor, 2018). Foucault argues that disciplinary power has the function of training the individual to appropriate him even more and better. Based on this, the author addresses three pillars that make it possible for the disciplinary power to fully act, namely: normalization, individualization and surveillance. About that, regarding normalization, in the essence of all disciplinary systems works a small penal mechanism. Disciplines, in their turn, establish an “infra-penalty”, an space left void by the laws, qualifying and repressing a set of behaviors that was escaping from the huge punishment systems because of its relative indifference (Foucault, 2014). In addition, it is this system that becomes operative during the training and correction process. And due to the game of quantification, the circulation of advancements and debts, thanks to the permanent calculation of too many or too few grades, disciplinary devices rank, in a mutual relationship, the “good” and the “bad” individuals (Foucault, 2014). Likewise, Foucault (2014) also exposes that the art of punishing, in the regime of disciplinary power, does not aim at either atonement or even repression. It puts into operation five very different operations: relating the acts, the performances, the behaviors singular to a set, which are both a field of comparison, a space of differentiation and the principle of a rule to follow. Therefore, the perpetual penalty, which cuts across all points and controls all moments of the disciplinary institutions, compares, differentiates, hierarchize, homogenizes and excludes. In a word, it normalizes. Therefore, like surveillance and along with it, regulation presents itself in a role of classification, hierarchization and distribution of places (Foucault, 2014). In some sense, the regulatory power requires homogeneity - individualizes allowing to measure the deviations, determining the levels, fixing the specialties and making the differences useful, adjusting them

to each other (Foucault, 2014). Therefore, according to this scholar, surveillance and normalization are combined in the exam. It is a mechanism for extracting the truth, exclusive of the anonymous and functional techniques present in several modern institutions. Expanding, “individualization” stands out, since at the heart of the discipline processes, the exam manifests the subjection of those who are perceived as objects and the objectification of those who subject themselves. The overlapping relations of power and the ones of knowledge assume, in the exam, all their visible brightness. Therefore, the exam supposes a mechanism that links a certain type of knowledge formation to a certain form of exercise of power. From this point of view, Foucault's (2014) thinking is adjusted, when the author explains that the examination inverts the economy of visibility in the exercise of power, in which disciplinary power, on the contrary, is exercised becoming invisible: in compensation it imposes on those who submit a principle of mandatory visibility. In discipline, are the subjects that have to be seen. And examination is the technique by which power, instead of sending out the signs of its power, instead of imposing its mark on its subjects, captures them in an objectification mechanism. The exam also makes the individuality to enter in a documentary field. Foucault (2014) also highlights the formation of a series of codes of disciplinary individuality that allow to transcribe, homogenizing, the individual traits established by the exam: physical code of qualification, medical code of symptoms, school or military code of behaviors and performances. These codes were still very rudimentary, in their qualitative or quantitative way, but they mark the moment of a first “formalization” of the individual within power relations. Thus, there is the configuration of replacing the individuality of the memorable man with that of the calculable man, which puts into operation a new technology of power and another political anatomy of the body. Thus, the individual is configured as a fictitious atom of an “ideological” representation of the society, and also a reality manufactured by this specific technology of power that is called “discipline” (Foucault, 2014). Extending the discussion, Prado Filho (2006) addresses subjectivity from the eyes of Foucault and points out to a methodological embryo when entering the author's thinking, which contemplates: knowledge / power / subjectivity. This author refers to power and knowledge in the order of production, such as social machines, political processes, relations, thus, subjectivity is always in the order of effects, in other words, it is the point of arrival and not of departure. The question for the author is to understand how knowledge and power support each other, how the reciprocal incitement between knowledge and power produces subjectivity effects in subjects. Extending the discussion, Prado Filho (2006) addresses subjectivity from the eyes of Foucault and points out to a methodological embryo when entering the author's thinking, which contemplates: knowledge / power / subjectivity. This author refers to power and knowledge in the order of production, such as social machines, political processes, relations, thus, subjectivity is always in the order of effects, in other words, it is the point of arrival and not of departure. The question for the author is to understand how knowledge and power support each other, how the reciprocal incitement between knowledge and power produces subjectivity effects in subjects. However, in order to give visibility to the fabrication of ways of being, one cannot reduce the processes of institutionalization from the “I” to the power relations that discipline and regulate human life only as techniques for the “government of others”, since “Technologies of the self” add means to “the government of itself”, since they are responsible for the way the subject relates to himself, which, in turn, places him as an object for himself. The author defines the technologies or techniques of himself as “[...] *the procedures, [...] presuppositions or prescriptions for individuals in order to establish their identity, maintaining it or transforming it according to certain purposes, and this thanks to relationships of domain of itself over itself or of knowledge of itself by itself*” (Foucault, 1999, p. 109). This way, looking at these technologies as practices that make from the subjects their objects, is “*to analyze a subjecting operation, which at the same time that enunciates the truth of a subject, coercively links it to a certain identity*” (Weinmann, 2006, p. 17).

Subjection is not specifically the repression of the State or capitalism exerted on a subject, as if those were entities overlapping with it, they are relations of practices of power. And lastly, considering the “surveillance”, we have that the institutions formed in the disciplinary society, with their own technologies of detailed control over the operations of the bodies, exercise disciplinary power, within which surveillance operates as one of its gears (Prado Filho & Geraldini, 2012). The purpose of applying the surveillance-power is to make it possible for those who want to be under control to be visible. Therefore, for Prado Filho and Geraldini (2012, p. 143), “*thinking about surveillance as an instance of power does not imply thinking about a simple act of watching, but including it in a political, productive perspective*”. From surveillance, “*power becomes a multiple, automatic and anonymous machinery*” (Foucault, 2014, p. 148). It is power that is both indiscreet and discreet, because if on the one side it is everywhere and always alert, on the other it always works in silence. It can also be thought of as the power of a calculated gaze, because the discipline is operated by its own mechanisms. In this context, power has effects of invisibility in the way that it is branched, articulated, multiplied. It is characterized by a fine vigilance that is in all levels and, therefore, does not impose itself under a single focus, making itself visible and oppressive. In addition, its operation is anonymous, capillary, and the exercise of power does not add from the outside, but is within the functions invested by it, in a very subtle way. With such subtlety, the effectiveness of those functions increases by increasing their own support points (Prado Filho & Geraldini, 2012). It is worth mentioning that it is through the continuous visibility, caused by an invisible power, that the control over the bodies is exercised, and that it is possible to keep them subjected. It is an extensive power that acts in different ways on individuals. A central point would be at the same time a source of light that would illuminate all things, and a place of convergence for everything that must be known: a perfect eye to which nothing escapes and a center towards which all eyes converge. Discipline makes a relational power to “work” which is self-sustained by its own mechanisms and replaces the brightness of the manifestations with the uninterrupted game of calculated eyes. Thus, the calculated looks, the visibility and the constant vigilance find legitimacy based on the architecture of the panopticon. This term was adopted by Foucault, who described it as one of the most brilliant discoveries in the disciplinary society. The panopticon is seen by Foucault (2014, p.160) as set of mechanisms “*connecting the set of procedures used by the power*”. The most important effect of the panopticon is to induce a conscious and permanent state of visibility in the prisoner that ensures the automatic functioning of power. The purpose of this is to ensure that: surveillance is permanent on its effects, even if it is discontinuous in its action; the perfection of power may render the actuality of its exercise useless; that architectural apparatus may be a machine to create and sustain an independent power relationship from the one exercising it; detainees are held in a situation of power of which they themselves are the carriers (Foucault, 2014). Therefore, the essential thing is for the prisoner to know that it is being watched, although there is no need for it to be effectively monitored. The “*panopticon is a machine to dissociate the pair from seeing-being seen: in the peripheral ring, if it is totally seen, without ever seeing; in the central tower, you can see everything without ever being seen*” (Foucault, 2014, p. 196). Under the view of Feder (2018), the objective of the panoptism is the “internalization” of the authoritarian watch, under which a subject in a field of visibility assumes responsibility for the restrictions of power, so that, among the lessons of panoptism, the author reinforces Foucault's thesis punctuating that the power that seems focused on an individual is in fact “distributed” throughout the structure, so that each individual is simultaneously “object” and “subject” of this power. Considering Foucault's idea, through which the philosopher argued that a disciplinary system is made to work alone, Shore and Roberts (1995) claim that the panopticon acts as a control practice by means of the total and permanent visibility of individuals, in other words, it is a device perceived as a paradigm of the social control and surveillance systems.



Finally, and considering the structure of the panopticon, Heyes (2018) claim is opportune when he states that power is not a set of mechanisms of denial, refusal and exclusion, but of what it effectively produces. For this author, power is likely to directly produce individuals themselves, so that individuality and individual identity are products of power. Subjectivity, on the other hand, is a philosophical term that describes the possibility of a lived experience within a greater historical and political context.

#### **4. NEOSUBJECT: THE SUBJECT PRODUCED BY COMPETITION AND PERFORMANCE**

Understanding how all institutions, values and activity are currently incorporated and transformed into the performance device, in the name of its needed “modernization” is possible, by observing the technologies of control and surveillance of individuals and populations, such as the recording of their behaviors. Factors that articulate with the economic discourse to reinforce the instruments of social management. The central question that arises is how neoliberal rationality, based on integral competition in all spheres, acquires a totalizing dimension, from which nothing escapes, encompassing from the State until all spheres of human existence. The construction of this new rationality, according to Dardot and Laval (2016) follows steps, from the construction of the market to competition as the norm for this construction, from competition as the norm of the activity of economic agents to competition as the norm of State building and its action and, finally, from competition as a norm of the company-state to competition as a norm of the conduct of the subject-company. In addition to the State, society also adapts to the new neoliberal rationality, and the whole of the society starts to be conceived as a “market”, in which each subject is a “company” that is in continuous competition. This new rationality becomes the mediator of all social relations: “the neoliberal man is the competitive man, fully immersed in the world competition” (Dardot & Laval, 2016, p. 322). In contrast, this same issue requires the neoliberal subject to continually overcome itself, being flexible to keep up with the changes imposed by the market, adapting to the continuous variations in market demand and always assuming risks. The naturalization of the logic of realities shows (with the elimination of the weakest and most inept) and the “uberization” of work relations, with the “flexibility” of “employees”, are examples of scopes from the contemporary world. Thus, neoliberalism is not restricted to the economic sphere, but crosses and involves all dimensions of human life. In this context are HEIs, which currently tend to be distributors of legitimate rules, categories and prohibitions, and also with legitimacy to establish rules and social identities. Nesse contexto estão IES, que atualmente tendem a ser distribuidores de regras, categorias e proibições legítimas, e também com legitimidade para estabelecer regras e identidades sociais. In short, it is the way that HEIs follow the logic of efficiency and competition. Far from a model of a central power that would remotely command subjects, performance is distributed in diversified mechanisms of control, evaluation and incentive and participates in all the gears of production, in all modes of consumption, in all forms of social relationships. The academic, or the new subject (neo-subject), the man produced by competition and performance is faced with the effects of the practices that emerge from the neo-liberalism. These effects compose a study by Dardot and Laval (2016) where the authors mention a set of diagnoses that can be viewed in the academic environment. Starting with the intensification of controls questioning the social game within the organization, in other words, the margin of freedom that is given by the salary rate and that gives meaning to work, on the same way that it contradicts the aspiration of professionals for greater real autonomy, characterizing the “contradicted autonomy”. In this way, the subject at work seems more vulnerable to the extent that management requires him to fully compromise his subjectivity. One of the paradoxes of the new managerial power, which demands this commitment, is undoubtedly, the delegitimization of the conflict caused by the very fact that the demands are

without subject, have no author or identifiable source, being considered as entirely objective. Social conflict is prevented because power is unreadable. This is undoubtedly what explains part of the new symptoms of psychological distress, the “suffering at work”. Another element integrating this scenario concerns the “corrosion of the personality”. This factor perceived in the research carried out by Sennett, which points out the feelings of professionals (salaried workers), highlighting: “we always have to start all over again”, “we always have to show our value”, of “always starting from zero”. The effect is multiple: an accelerated professional usury and a relational and psychic “caos”. The new personality: “a malleable myself, a collage of fragments in perpetual becoming, always open to the new experience” (Dardot & Laval, 2016). Complementary and parallel is “demoralization”, with this asceticism, at the service of the company's performance, combined with a regular evaluation of professionals inside the management chain, standardizing behaviors, at the same time that it demolishes the engagements of subjects, one with another. Relations, feelings and positive affections are mobilized in the name of efficiency. The self-help ideology destroys the social link, insofar as this one rests over the duties of reciprocity with the other. And finally, the “general depression”, where the cult of performance leads most of the people to prove their failure and leads to depression in large scales.

## 5. CONCLUSION

Considering the implementation of management practices in High School Institutions, using as example the evaluation, are the teachers, submitted to those management protocols. Protocols carrying with them the logic of market competition. Context in which, the market is conceived as a process of the self-formation of the economic individual, a subjective self-disciplined process, by means of which the individual learns to guide. In view of this, and answering the research question, it the conclusion that the neo-liberalism employs techniques of power regarding the conduct and subjectivity of individuals, in this case teachers. Such a conclusion finds legitimacy, notably in the evaluation of teachers, a management practice that caused significant change, especially due to the subjective characteristics presented in this perspective. Evaluation increased the dependence regarding the management chain in the sense that the obligation of the objective, conditioning the subject of the evaluation to embarrassment as it imposes on the teacher the priorities of the Higher Education Institution (Dardot & Laval, 2016). Thus, one of the reflexes is that transactions gain more and more space to the detriment of all other modes of relationships with the other. This change is related with the way in which individuals are encouraged to participate in a device different from the one that prevailed in the industrial era. The technique of itself is one of good performance in a competitive field, it aims to intensify the performance. Having said that, it is concluded that the circumstances that impacted the teachers' work, guided by management practices acting as power devices, are reflected in the conduct, or better in the standardization of the conduct, and consequently in subjectivity. In this scenario is the intensification of controls, suffering at work and the corrosion of personality as examples of effects that make up the set of diagnoses that can be viewed in the academic environment. The teacher, or the new subject (neo-subject), the man produced by competition and performance is faced with the effects of the practices emerging from the neo-liberalism. Thus, neo-liberalism is not restricted only to the economic sphere, but it crosses and involves all dimensions of human life. Finally, as a contribution to the analysis under the light of Michel Foucault, which allows the analysis of management practices as devices of power within the Higher Education Institutions. Such a context finds visibility when it is seen, for example, the competition introjecting itself in the subjectivity sphere of individuals.

In view of this, life is seen as a company, an asset to be continuously valued, in which the individual is an entrepreneur of himself. Thus, it becomes interesting to note how it is possible to analyze the neoliberal or the neo-subject based on Foucault's concepts of government, strategy and power device.

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## **DETERMINATION OF THE LEVEL OF RESILIENCE OF A CRITICAL INFRASTRUCTURE ELEMENT - CASE STUDY**

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### **ABSTRACT**

*To ensure the functionality of strategic elements of infrastructure (transport, energy, ICT, etc.) it is necessary to know the risks that could negatively affect the operability of the element and know the level of its resilience. In the article, the authors describe a new methodology for assessing the resilience of critical infrastructure elements, which they have developed to support decision-making for security managers of critical infrastructure entities and which can also be applied in their training. The methodology has a defined algorithm and basic components of evaluation as a basis for identifying variable indicators usable for estimating the level of resilience of a selected element of critical infrastructure. It can be used in the fields of energy, transport, water management, communication and information systems. The method of evaluation and some calculations can be applied with some adjustments in other industries, e.g. assessment of the resilience of elements of the emergency services and healthcare sector. The paper will present a case study with the implementation of the methodology for the element of heating infrastructure. The determination of the level of resilience of the element is conditioned by finding out the current state of security systems and equipment that ensure the functionality of the selected element of the heating industry. Based on the evaluation of all input data, the paper will quantify the current level of resilience of the assessed element of the heating infrastructure.*

**Keywords:** *Resilience, heating element, treats, risk, robustness, recoverability, adaptability*

### **1. INTRODUCTION**

The district heating sector is part of the energy subsector and includes nuclear fuel management and radioactive waste storage. This subsector belongs to the Ministry of Economy of the Slovak Republic, other institutions such as the Nuclear Regulatory Authority of the Slovak Republic, the Public Health Office and the State Material Reserves Administration of the Slovak Republic also have their specific competencies. The main activity of the heating industry is the purchase, distribution or sale of electricity and heat, which also includes the provision of services related to the supply, consumption or use of electricity. The activities also include heat supply, which means heat production and distribution. Electricity as a subject of activities deals with the production and distribution of electricity and electrical installation includes the installation and repair of machinery [1]. Other activities in the heating industry include the provision of energy services, inspections of electrical equipment in the network, installation and repair, inspections

and tests of gas equipment and the like. Resistance is the ability of an element to absorb, adapt, and rapidly restore the activity of the element as a result of an adverse event. Resilience represents the internal preparedness of critical infrastructure subsystems for adverse events, resp. the ability of these subsystems to ensure and maintain their functions under the negative influence of internal and / or external factors. Resilience is related to the performance function of subsystems. Resilient subsystems show a smaller decrease in performance during the occurrence of an adverse event, and its return to the desired level takes less time. Resilience is an important factor in the process of managing the protection of critical infrastructure elements. The opposite of resilience is vulnerability. Resilience and vulnerability are inverse to each other. Vulnerable subsystems lack resilience and, conversely, resilient subsystems are not very vulnerable.

## **2. DETERMINATION OF THE RESILIENCE LEVEL OF AN ELEMENT OF THE HEATING SYSTEM**

The resilience of infrastructure elements in the energy sector can be expressed by determining the level of technological and physical protection of the element and by determining the level of process management. The determination of the level of resilience is therefore conditioned by the analysis of threats that may limit the functionality of the examined system, finding out the current state of security systems and equipment, assessing the risks of technological processes and management processes of the organization. [4] Based on the acquisition and evaluation of all the above input data, it is possible to evaluate the level of robustness, recoverability and adaptability of the investigated element of the heating infrastructure as the main components of the overall resilience. The procedure of the steps by which it is possible to determine the level of the actual resistance of the element of the heating system is shown in Fig. 1.

### **2.1. Description of the element**

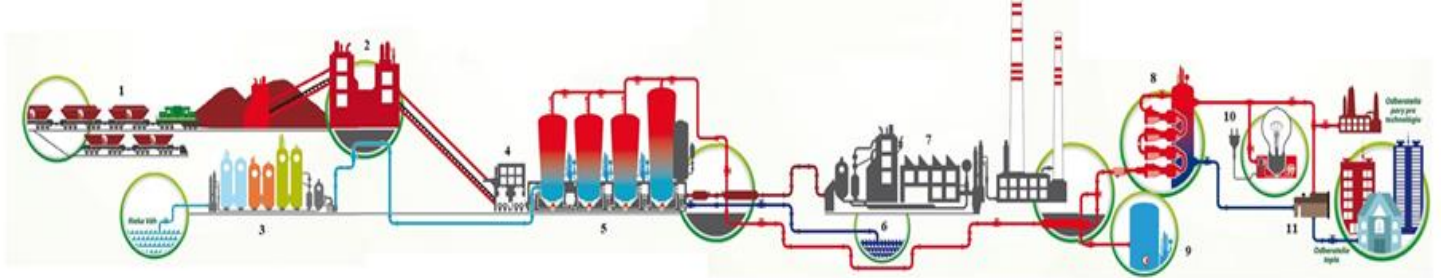
The assessed element of heating infrastructure is located in the north of Slovakia. Its main tasks include the purchase, distribution and sale of electricity and heat, including the provision of services related to the supply, consumption or use of electricity and heat, heat supply - production and distribution of heat in the field of electricity - production and distribution of electricity. Fire and gas detectors are used. Fire detectors are used to protect against fire hazards, which detect an increased incidence of smoke in the room and gas leak detectors can locate the presence of harmful gases in the environment. When identifying deficiencies, an element of the district heating infrastructure can be considered as highly secured, but in inside the complex there are several areas where there are no camera systems. These are mainly administrative premises. The strengths of protection are considered to be the appropriate location in terms of the minimum number of occurrences of natural emergencies. The assessed element of the heating industry has developed an emergency plan and a crisis preparedness plan. It has its own backup generators. The degree of effectiveness of current security measures will be assessed in other parts of the paper.

### **2.2. Identification of threats and risks acting on the element**

Several threats affect the selected object. They can be included in the categories of technological, personnel, meteorological, physical, cascade and cybernetic. In each of these areas, it is possible to identify risks and evaluate them in direct relation to the selected element. Given that the heating industry is an industrial production, it is clear that the risks associated with the production of heat and domestic hot water may arise in the production processes. These risks can negatively affect the functionality and operability of the heating infrastructure facilities to varying degrees and also affect the degree of their resilience [2, 6]. To quantify the level of resistance of the selected district heating infrastructure, it is necessary to identify risks

in the production process, which consists of brown coal imports, coaling department, chemical water treatment, equipment such as pressure mills, steam boilers, sludge, desulphurization equipment, steam turbines, excess heat energy accumulator, electricity generators and heat exchanger station. [3] The manufacturing process is shown in Fig. 1.

Figure 1: Production process in the heating industry [10]



1 Import of brown coal, 2 Coal department, 3 Chemical water treatment, 4 Impact mills, 5 Steam boilers, 6 Sludge pond, 7 Desulphurisation plant, 8 Steam turbines, 9 Excess heat accumulator, 10 Electricity generators, 11 Exchange station

To determine the resistance of a heating plant, it is necessary to identify and assess the risks in individual categories - meteorological, geological, technological, technical, anthropogenic, cybernetic, etc. Robustness, recoverability and adaptability are then calculated from them. These three quantities are a prerequisite for determining the resistance of a heating element.

### 2.3. Robustness evaluation

Robustness is the ability of an element to absorb the effects of an adverse event. These impacts can be absorbed through the structural properties of the buildings or the technologies used (ie structural robustness) and / or through security measures (ie security robustness).

Table 1: Robustness evaluation of heating infrastructure element

No.	Variables	Measurable items	Score	Weight w	Variables	Weight	Component
1.1.1.	Flexibility	Backup of key technologies	2	0,3	64	0,2	52,92
1.1.2.		Backup of communication lines	3	0,2			
1.1.3.		Backup resources of key resources	3	0,1			
1.1.4.		Access roads	5	0,2			
1.1.5.		Backup power sources	3	0,1			
1.1.6.		Control workplace	4	0,1			
	$\sum MPk*wk$			<b>3,2</b>			
1.2.1.	Links between infrastructures	Physical interdependencies	4	0,3	66	0,3	52,92
1.2.2.		Cyber interdependencies	3	0,5			
1.2.3.		Geographical interdependencies	3	0,2			
	$\sum MPk*wk$			<b>3,3</b>			
1.3.1.	Ability to detect	Technology failure detection	4	0,25	70,6	0,3	79,38
1.3.2.		Technology failure detection speed	4	0,02			
1.3.3.		Detection of funds supply outages	4	0,2			
1.3.4.		State and strength of resources	4	0,1			
1.3.5.		Technical devices	5	0,25			
	$\sum MPk*wk$			<b>3,53</b>			
1.4.1.	Exposure	Time and intensity of exposure of the structure	3	0,3	64	0,2	79,38
1.4.2.		Time and intensity of human exposure	3	0,5			
1.4.3.		Time and intensity of exposure of agents	4	0,2			
	$\sum MPk*wk$			<b>3,2</b>			
				$\sum$	264,6	1	66,15

The level of robustness can always be assessed only in relation to a specific adverse event, resp. its intensity.

When this level reaches 100%, then the element becomes resistant to the effects of the adverse event. This means that it is able to fully withstand its effects without appreciable negative effects on the element of the service provided. The robustness of the evaluated element has a value of 66.15%.

## 2.4. Recoverability evaluation

Recoverability is the ability of an element to restore its activity to the original (required) level of services provided after the effects of the adverse event have ceased to exist. [8] Recoverability is understood in the area of critical infrastructure as repairability; therefore, only the repair or replacement of damaged or destroyed component components is considered.

Table 2: Recoverability evaluation of heating infrastructure element

No	Variables	Measurable items	Score	Weight w	Variables	Weight	Component
2.1.1.	Material resources	Ability to recover the function of an element	4	0,3	74	0,2	55,72
2.1.2.		Repairability of key element technology	4	0,2			
2.1.3.		Time availability of spare parts	2	0,1			
2.1.4.		Substitutability of key element technology	3	0,2			
2.1.5.		Time horizon for repair or replacement of key technology	4	0,1			
2.1.6.		Reliability criterion	5	0,1			
	$\Sigma$ MPk*wk			3,7			
2.2.1.	Financial resources	Allocation of financial resources / reserves for renewal	3	0,3	66	0,3	55,72
2.2.2.		Time aspect of availability of financial resources / reserves	4	0,5			
2.2.3.		Time readiness of financial resources / reserves	2	0,2			
	$\Sigma$ MPk*wk			3,3			
2.3.1.	Human resources	Availability of human resources of the required qualification	4	0,25	58,6	0,3	83,58
2.3.2.		Human resources capacity	4	0,02			
2.3.3.		Expertise of human resources	4	0,2			
2.3.4.		Personnel security	3	0,1			
2.3.5.		Time availability of human resources	3	0,25			
	$\Sigma$ MPk*wk			2,93			
2.4.1.	Recovery processes	Function recovery planning	4	0,3	80	0,2	83,58
2.4.2.		Function recovery process	4	0,5			
2.4.3.		Crisis preparedness of recovery processes	4	0,2			
	$\Sigma$ MPk*wk			4			
				$\Sigma$	278,6	1	69,65

If the material, financial, human resources and recovery processes are sufficient, resilience can be strengthened at this stage. An example is the implementation of more modern technologies that meet higher safety standards and enhance the robustness of the element. The calculated element recoverability is at the level of 69.65%.

## 2.5. Adaptability evaluation

Adaptability is the ability of a critical infrastructure entity to prepare an element for the recurrence of an adverse event that has already occurred. It represents a dynamic (long-term) ability of the organization to adapt to a changed situation. Adaptability is determined by the internal processes of the organization, the essence of which is to create the best possible conditions for strengthening technical resilience. [8] The basic processes strengthening the adaptability of critical infrastructure elements to adverse events are risk management, innovation processes and educational and development processes. The calculated value of the adaptability of the assessed element is at the level of 74%.

Table following on the next page



Table 3: Adaptability evaluation of heating infrastructure element

No.	Variables	Measurable items	Score	Weight w	Variables	Weight	Component
3.1.1.	Risk management	Level of Risk management	5	0,4	88	0,4	88,8
3.1.2.		Risk assessment methodology	4	0,2			
3.1.3.		Implementation of safety standards	4	0,1			
3.1.4.		Level of specification of the adverse event scenarios	4	0,3			
		$\Sigma$ MPk*wk		<b>4,4</b>			
3.2.1.	Innovation processes	Organizational structure	5	0,1	68	0,3	66,6
3.2.2.		Implementation of management systems	4	0,1			
3.2.3.		Management of organizational processes	4	0,1			
3.2.4.		Management process innovation	4	0,1			
3.2.5.		Technology innovation	3	0,2			
3.2.6.		Security innovation	2	0,2			
3.2.7.		Research & Development	3	0,1			
3.2.8.		Investing in innovation	4	0,1			
		$\Sigma$ MPk*wk		<b>3,4</b>			
3.3.1.	Educational and development processes	Types of training provided or facilitated by the organization	3	0,2	66	0,3	66,6
3.3.2.		Scope of vocational training	4	0,3			
3.3.3.		Training to deal with adverse events	3	0,3			
3.3.4.		Evaluation of training effectiveness	3	0,2			
		$\Sigma$ MPk*wk		<b>3,3</b>			
				$\Sigma$	222	1	74,00

## 2.6. Determination of the level of resilience

Assessment of the resilience of critical infrastructure elements is a complex process based on clearly defined procedures and good knowledge of the underlying data. To perform the evaluation, it is necessary to know the basic structural and performance parameters of the evaluated element, the existing safety measures of the evaluated element, the organization's processes supporting strengthening the element's resilience and last but not least the specific adverse event against which the element's resilience will be evaluated. The level of resilience of a critical infrastructure element is calculated as the arithmetic mean of the values of the components by which it is determined.

Table 4: Evaluation of the resilience of the assessed element

Evaluation of heating infrastructure element		RESILIENCE
Robustness	66.15 %	<b>69.93 %</b>
Recoverability	69.65 %	
Adaptability	74.00 %	

Table 5: Comparison table to evaluate resilience [9]

	LEVEL OF RESILIENCE
<b>High level of resilience</b>	<b>85 – 100 %</b>
<b>Acceptable level of resilience</b>	<b>69 – 84 %</b>
<b>Low level of resilience</b>	<b>53 – 68 %</b>
<b>Insufficient level of resilience</b>	<b>37 – 52 %</b>
<b>Critical level of resilience</b>	<b>≤ 36 %</b>

The level of resilience indicates the overall state of the element (ie its ability to absorb the effects of the adverse event and restore its activity to the original / required level of services after the impact of the adverse event) and the state of the organization (ie the ability of the critical infrastructure entity to prepare the element for repetition adverse events). [11] If the resilience level is  $\leq 68\%$ , it is necessary to identify the weak points by decomposing the results of the resilience assessment, which must be performed at the level of the measurable items concerned.

### 3. CONCLUSION

Assessing the resilience of a critical infrastructure element is a specific and technically demanding process. In essence, it can be performed as an external or internal evaluation. In external evaluation, the resilience of the critical infrastructure element is usually assessed by an external and independent evaluator, critical of the critical infrastructure entity. On the contrary, the internal assessment of resilience is usually carried out by the subject itself. The basic principles applied in assessing the resilience of a critical infrastructure element include the principles of complexity, specificity, adequacy, impartiality and expertise.

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# PERCEPTION OF HUMAN RESOURCES ON THE SKILLS REQUIRED IN THE FOUR AND FIVE STAR HOTELS IN THE HISTORIC CENTRE OF PORTO

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## ABSTRACT

*The current situation poses a strong challenge for the Hospitality sector, which has been in very low demand when compared to the performance observed in recent years across the country and in the city of Porto, in particular. Four and five star hotels have increased exponentially in the city, in recent years, contributing to the creation of direct and indirect jobs. The strong expansion of the Hospitality sector places under analysis the importance of the qualification of Human Resources and the need for continuous training to face the demands of the market. The Covid-19 Pandemic, which emerged in January 2020 and forced the closure of hotels in March, brought a new reality to the sector, but also evidenced the need for more skills by Human Resources, to face the market turbulence and the resilience necessary for its “revival”. Thus, the objective of this exploratory study is to analyze the perception that Human Resources of four and five star hotels in the Historic Centre of Porto have with regard to their performance, skills and working conditions. The study was carried out during the months of April and May 2020 and the main conclusions tell us that the respondents feel that they need to improve some skills, namely the digital, linguistic and communication skills, since a large part of them never attended any type of training through the employer, having acquired new skills on his own initiative, namely through professional experience. Despite seeing their performance evaluated and claiming that they have a good work environment, several respondents have reservations about career progression, salary conditions and contractual regime, which indicates that the Hospitality sector should review some of its Management practices of Human Resources, in order to give better conditions to its staff and to invest in the enhancement of its skills.*

**Keywords:** *Hospitality sector, Human Resources, skills*

## 1. INTRODUCTION

Currently, the tourist phenomenon involves millions of people who move from their permanent residence to a temporary residence. To allow tourists to travel, these people have different needs: transportation, sleep, food, etc. The sum of all these services is what we define as the hospitality industry, which is one of the main economic activities in the world (Dumi and Figetto, 2019). Indeed, Tourism is a sector of great importance for the development of historic cities, whose heritage wealth is an important attraction for a tourist activity, strongly anchored in heritage and culture. Several authors show the economic benefit as the main motivation of the receiving community in relation to Tourism and demonstrate that the economic impacts can be perceived as positive, resulting in the creation of jobs (Dietrich and García-Buades, 2009; Gursoy, Jurowski and Uysal, 2002; Haralambopoulos and Pizam, 1996; Liu and Var, 1986; Vargas-Sánchez, Plaza-Mejía and Porrás-Bueno, 2009). The enhancement of the urban heritage offers cities an immense possibility for renewal and progress, particularly in their historic urban centres (Vaquero and Hernández, 1998).

Thus, this study focuses on the Historic Centre of Porto (HCP), classified as Cultural Heritage of Humanity, since 1996. Tourism in the region of Porto and Northern Portugal, before the Covid-19 Pandemic, had recorded record numbers with regard to the number of hotel establishments, occupancy rate, RevPAR (ratio between room income and the number of available rooms) and number of overnight stays. The truth is that never before had the numbers been so promising and the year 2020 was designed as the best year ever. The flourishing of Tourism in the city of Porto and the increase in hotel establishments, especially in the historic centre of the city, highlighted the importance of the theme of studying the skills and qualifications of its Human Resources, to meet the needs of tourists in hotel establishments, namely 4 and 5 stars. According to the National Statistics Institute (INE), from 2009 to 2019 there was an increase of 68% of hotels in the HCP, bringing the need for new skills in terms of service. Thus, the present study aims to study how the Human Resources of 4 and 5 star hotels in the HCP provide their qualifications and skills according to the demands of the current market. It should be noted that this is an innovative study, namely for its content and the context in which it was applied (during the period in which Portugal was in a state of emergency and, subsequently, of calamity), although other studies have already been carried out poring over intellectual capital in hotels (Astuti, Chairi and Rohman, 2019) or in the Tourism sector in the HCP (Marques, Candeias and Magalhães, 2020), but in the latter case, the focus was not that which is the main active in a sector that is going through great difficulties and that, more than ever, needs to invest in the quality of that same asset, which are the people who work in it.

## **2. THE HOTEL SECTOR IN THE PORTO AND THE NORTHERN REGION OF PORTUGAL**

According to INE, the tourist activity of Porto, in 2019, showed a notable growth, standing out from the growth of tourism activity at national level. The region maintained and reinforced its growth trend, either in overnight stays, where it registered an increase of 10.6% over the previous year (10 million overnight stays in total), or in revenues, where there was an increase of 14.8 % and also at the RevPAR level, (1.9% more than in 2018). Thus, the city of Porto and the Northern region consolidated, in 2019, as the third national destination. Also, in 2019, ten hotels were opened in Porto, which translated into 960 rooms that, according to the Association of Hoteliers of Portugal, focused on the MICE segment (Meetings, Incentives, Conferences & Exhibitions). The data presented help us to understand the touristic performance of the city of Porto and allow us to highlight the training needs for Human Resources in the Hospitality sector, which, in 2018, employed 22,472 (33% more than in 2010). It is also important to note that, in the Accommodation and Catering sector, in 2019, only 13% of employees had university degrees and the majority (53%) had basic education. Nowadays and due to the Covid-19 pandemic, the Tourism sector is having very considerable losses and, given the reality of a city, that needs to rebuild itself and return to the levels of development it was used to, it is very important that hotels today look for ways to find new markets and new strategies to provide their Human Resources with the technical and relational skills that allow the development of the sector.

## **3. CONCEPT AND IMPORTANCE OF PROFESSIONAL SKILLS**

The skills of human capital are decisive for the economic growth of countries, especially in an era of great dynamism and an unremitting search for knowledge. Therefore, it is important to study the impact that human capital has on economic growth. This impact has already been analysed, having been demonstrated in a study carried out in Portugal, between 2000 and 2015, which demonstrated that, in general terms, human capital has a positive effect on Gross Domestic Product per capita (Silva, Rosário and Costa, 2018). In view of this, any organization with a well-defined management strategy must identify the roles to be played, as well as

compile the desirable skills for the effective performance of its Human Resources. Only in this way is it possible to identify the essential skills to perform a function, as well as the necessary skills to improve the performance in the future (Uddin, Tanchi and Alam, 2012). Srivastava and Agarwal (2012) suggest that organizations should plan and implement innovative mechanisms for skills and competencies development of their Human Resources, in order to prepare and enable them to accept and overcome emerging challenges. Therefore, in the face of this situation, the global economy has created a dynamic, competitive and complex environment, in which organizations need to constantly adjust and compete with each other to achieve success (Dries, 2013), and for this, the skills that people own and put at the service of organizations, are essential. Thus, the retention and training of highly qualified labour is increasingly necessary in emerging jobs and business models, since they require new skills or the adaptability of the existing ones, in order to ensure better economic and financial performance and better responses to market trends (Devine & Baum, 2005). Thus, talented and committed employees promote productivity, innovation and creativity, being seen as a fundamental factor for organizations to grow sustainably and achieve success (Baharin and Abdullah, 2011). It is for this reason that companies look for competent employees, especially with strong interpersonal skills, able to respond adequately to the disruptive changes that organizations are facing (John, 2009), looking for a combination of hard and soft competences (Muller and Turner, 2010). In this sense, Parry (1996) questions whether or not competencies should include personality traits, values and styles, pointing out that some studies distinguish between “soft competencies” - which involve personality traits - and “hard competencies”, - which limit to pointing out the skills required for a specific job. The concept of competence has become one of the most popular definitions of Management (Nicolai and Dautwiz, 2010), widely explored in the literature (Garavan and Mcguire, 2001; Stevens, 2012), promoting the existence of several approaches and interpretations. McLagan (1997) tries to summarize this issue, stating that, in the world of work, the word competence has taken on several meanings, normally aligned with the characteristics of individuals or their productive activities and consequential results. In a similar perspective, Woodruffe (1991) differentiates, in English, competency from competence. According to this author, the first refers to dimensions of the behaviour behind the performance perceived as competent, while the second designates work areas in which the person is seen as competent. According to several authors, competencies are characteristics that focus on the individual and can be defined by the set of knowledge, attitudes and personal traits that are difficult to distinguish individually, being essential for employability, transferable to the work environment and must be continuously updated (Athey and Orth, 1999; Jeou-Shyan, Hsuan, Chih-Hsing, Lin and Chang-Yen, 2011; Raybould and Wilkins, 2006). Competence encompasses assets, resources, different types of knowledge and the respective control practices carried out by organizations (Durand, 2006). Kochanski (1996), defines competences as the success factors that allow assessment, feedback, development and reward processes for individual performance. Holmes (1992) says that competence is what allows us to perceive what a person is capable of doing instead of what she has done in the past. Prahalad and Hamel (1990) differentiate “organizational competencies”, as being those competencies needed for each function, and “essential competencies”, which are those that meet the following criteria: offer real benefits to customers, are difficult to copy and give access to different markets. According to Ulrich et al. (2008), competence consists of the set of knowledge, skills and behaviours demonstrated by individuals in carrying out their work. For these authors, a competence only exists when it is effectively observable and validated in the context in which it occurs. McClelland was referenced by several authors (Delamare and Winterton, 2005) as a precursor to a more classic perspective on the notion of competence: competence understood as an input. Thus, in the early 70s of the 20th century, in the USA, among the most expressive approaches, the behaviourist theory emerged based on the appreciation of the observable

aspects of competence (directly observable performance/behaviour). In the most recent literature (Asame and Wakrim, 2018; Epley et al., 2017) is defended that a competence corresponds to a set of knowledge, skills and abilities that an individual has to perform a specific activity, in order to produce a high performance, through the mobilization of resources (personal and environmental). A competency can also be defined as the set of knowledge, resources and skills that an individual has to perform with a view to an effective and superior performance at work (Selvan, 2016). There is also a broader view of professional competence, such as that developed by Cheetham and Chivers (1996, 1998). These authors also recognize the importance of the work context and the work environment for professional competence, namely the physical, cultural and social conditions that involve an individual at work. In this regard, it should be noted that cultural diversity can be considered an opportunity for the organization to use the diverse talents and skills of its workforce (Hecklau et al., 2016). But it is not just in cultural terms that diversity of skills is important. At the generational level it will also be like this, that is, organizations must rethink their Human Resources practices to attract and retain the most qualified people, across all age groups (Stone and Deadrick, 2015), so that they can attract young people, maintaining the knowledge of older employees (Hecklau et al., 2016). Therefore, it is essential that organizations understand the attitudes, emotions, motivations and cognitive and physical skills of workers to determine the most appropriate adjustment policies for different age groups (Spitulnik, 2006). Sparrow and Bognanno (1994) correlate the concept of competence with a range of attitudes that allow a quick adaptation to an increasingly less stable environment, encourage the productive use of knowledge and promote permanent innovation and learning. Such attitudes are relevant to obtain high performance in the exercise of functions, throughout a professional career and in the context of a corporate strategy. And it is precisely at the level of corporate strategy that leadership becomes central. Hence, skills at the level of entrepreneurship are very important, especially today, marked by such turbulence (Cingula, 2013), so it becomes relevant to stimulate these skills. In fact, the influence that a more “entrepreneurial” education can have on people's careers has already been studied (Aminu, Pulka and Rikwentishe, 2015). Likewise, studies demonstrate the importance of a leader/manager having skills not only technical, but also behavioural/emotional (Górski, 2011). It should also be noted that the current context, marked by a pandemic scenario, has led thousands of people to adapt their skills to more digital work environments, so the introduction of technologies, alongside globalization and the management of organizational diversity, pose new challenges to Human Resources Management (Bala, 2015; Harshwardhan, 2008; Hecklau et al., 2016; Sparrow, 2007; Stone and Deadrick, 2015; Twenge, Campbell, Hoffman, and Lance, 2010). Indeed, intellectual capital has been considered the real differentiating factor for organizations, especially in highly technological environments (Selvarajan et al., 2007). Hecklau et al. (2017) sought to identify essential competencies in the context of Industry 4.0 and digitalization. In a developed study, these authors revealed that 59% of the participating companies mentioned communication and cooperation as the most important skills. Thus, it is concluded that technological competence, that is, the ability to learn, work and develop tasks based on digital networks, has become a fundamental domain competence in the current era, of digital transformation (Hecklau et al., 2017). Consequently, Human Resource area has to adapt and evolve along with technological changes and the advancement of digitalization, which leads us to the concept of of Electronic Human Resource Management (Bala, 2015).

### **3.1. Skills in the Tourism Sector**

The importance of Human Resources has grown in the various sectors of activity, particularly in Tourism, where they have a dominant role, given the nature of the sector (Gruescu Nanu and Pirvu, 2008).

Human Resource Management in the tourist business system includes all activities, from planning, recruitment, organization and even the assignment of positions, depending on the needs and the work and development strategy of that company (Herman, 2015). In order to offer guests a quality service and cover their needs, offering them the experience they are looking for, constant professional training and monitoring of new trends in supply and demand in the tourist market, is necessary. This is the reason why professional training plays a very important role in Human Resources Management in Tourism process, in order to allow them to constantly acquire new skills and knowledge (Herman, 2015). To achieve maximum productivity and competitiveness, another important factor is the monitoring and evaluation of the work of each individual within the reward system, as well as the possibility of career progression and development. This is the component that is usually lacking in the various business systems and companies that work in Tourism (Herman, 2015). Rapid changes and uncertainty require new models of leadership to empower the human capital of tourism organizations. In fact, the current leadership paradigm must encompass individual characteristics (skills, behaviour, knowledge and style), agility and collective means of lead. To this end, it is imperative that leaders working in the Tourism sector also be the target of training programs that give them the necessary skills (Armstrong, Fang and Nguyen, 2017). As previously mentioned, competences must have a hard and soft nature, which is of even greater importance for an industry increasingly immersed in digital transformation and unpredictability (Strietska-Iliina and Tessaring, 2005). In the past, the world of work valued almost exclusively the technical skills of professionals. However, things have changed, and it is no longer enough to be technically good. In the Tourism sector, due to the nature of the activity, soft skills are increasingly important, hence the demand for professionals with social and behavioural skills. Some of these skills are: communication skills, cultural awareness, learning potential, empathy and emotional intelligence, positive attitude, problem solving skills, resilience, strategy and innovation, time management, multitasking, teamwork and flexibility (Strietska-Iliina and Tessaring, 2005). In this way, it is emergent to ascertain whether the people who working in the Tourism sector have the necessary skills to deal with future difficulties and needs of the sector and those who seek it.

#### **4. CONCEPTUAL FRAMEWORK**

The objective of this exploratory study is to analyse the perception that Human Resources of four and five star hotels in the HCP have with regard to their performance and skills. Considering the objectives and characteristics of the study, it was decided to develop an exploratory study with a descriptive data analysis. A structured questionnaire was applied, with closed-answer questions (based on a 5-point Likert scale and multiple choice questions) and an open-ended question, which was intended to identify those that, in the opinion of the respondents, are the main competencies in the sector under analysis. The elaboration of the questionnaire resulted from the combination of several items, such as sample characterization (namely gender, age, educational qualifications, performed functions and time connected to the company) and questions related to the skills and working conditions of the respondents. As this study was carried out during the confinement phase of the 2020 Covid-19 pandemic, surveys were sent to hotels using an online platform, ensuring the total anonymity of respondents and also respected the request for confidentiality of the hotels involved. A pre-test was also carried out in order to detect possible gaps in the questionnaire, which included five people from the selected hotels. The study was carried out during the months of April and May 2020 in a sample of nine 4 and 5 star hotels in the HCP, with an universe of nineteen hotels with this category, according to data referenced by INE, in 2020. In total, 52 responses were obtained.

## 5. EMPIRICAL RESULTS

### 5.1. Profile of the respondents

The sample is characterized by 51% of male respondents and 49% of female respondents. With regard to educational qualifications, 34% have a high degree, although the qualification levels of the professionals who collaborated in this study are very diverse (basic education, secondary education and master's). Regarding age, it is possible to observe that 80.9% of respondents are between 18 and 39 years old. Regarding the department where they work, it is possible to observe that there was a greater prevalence of housekeeping, reception and food & beverage. Among these three departments, the reception was the one that obtained the highest number of participants, with around 25.5%. In the case of the food & beverage department, it was possible to obtain 19.1% of participants and in housekeeping the preponderance was 17%. Regarding the function or position performed, it was observed that a large majority are undifferentiated workers (51.1%) and only 10.6% have an intermediate management function (10.6%). In the type of contract, we found that the majority of respondents have a fixed-term contract (44.7%), followed by an uncertain term contract (19.1%), an unlimited term contract (17%) and a partial contract (12, 8%). Finally, with regard to time connected to the company, the study shows that the majority of respondents work in the company for 1 to 3 years (44.7%), 21.3% work for less than 1 year, 19.1% are in the company for 3 to 5 years and only 14.9% work there for more than 5 years.

### 5.2. Results analysis and discussion

Within the scope of the first question, related to the fact that the respondents found whether or not they had the necessary skills to perform their duties, the majority answered affirmatively, with a prevalence of level 4 on the Likert scale, which means that they are partially in agreement with the statement. The skills that seem to be more present are related with teamwork, with an average of 4.6. Indeed, the importance of these skills has already been highlighted in previous studies (Strietska-Iliina and Tessaring, 2005). Regarding the question how respondents obtained their skills, we can see that, in terms of language skills, they were largely acquired in secondary and university education. In terms of digital skills, respondents highlighted university education (23%), professional courses (23%) and secondary education (19%). In the case of communicational skills, most acquired them in secondary education (51%), followed by university education (21%). So, in the case of hard skills (identified by authors such as Parry, 1996; Muller & Turner, 2010), organizations do not seem to take responsibility at this level, not fitting in with the studies that argue that organizations should have an active role at this level (Srivastava and Agarwal, 2012). Regarding interpersonal or soft skills (Muller and Turner, 2010; Parry, 1996), in the case of the ability to manage conflicts, teamwork and adaptability and flexibility, the respondents indicated that professional experience is being responsible for the acquisition of this type of skills. As for general culture (in terms of the area of expertise), the data appears to be very balanced, noting that 32% of respondents obtained it through professional experience, 28% through university education and 15% through secondary education. When asked whether they felt the need to improve skills and in what areas, the data are, on average, very close to level 3 on the Likert scale, which shows that respondents do not feel very secure in answering this question. However, linguistic, digital and communicational skills stood out as those that must be improved. This becomes particularly relevant if we understand that these competences have been identified as crucial for the development of the Tourism sector, namely communicational and linguistic (Strietska-Iliina and Tessaring, 2005) and, more recently, digital ones (Hecklau et al., 2017). With regard to questions related to the frequency of training actions to improve skills, the answer that prevailed in all the skills was "Never", with the overwhelming majority of respondents reporting that they had obtained training leading to their skills (especially techniques), on its own initiative.



In this way, organizations are not investing in the continuous training of their Human Resources, which is contrary to the opinion of several authors who attest to the importance of this (Armstrong, Fang and Nguyen, 2017; Herman, 2015). Concerning the way respondents feel about their working conditions, we can see that the most critical levels are within the scope of remuneration and career (with 17% and 10%, respectively, disagreeing with this conditions and with a higher non-response rate than in other questions). At the highest levels of satisfaction, we have factors such as the work environment, the performed functions and the physical work conditions (all with 81% of levels of agreement) and the perception that the guidance service for customer is the organization's priority (75%). In this way, we verified that not all the functions inherent to the Human Resources area are working properly in this sector, which becomes particularly relevant because, as previously mentioned, it is necessary that each tourist organization introduces a strategic system for the management of their Human Resources (Gruescu Nanu and Pirvu, 2008; Herman, 2015). Indeed, areas like reward systems and career management seem to be failing here, which were already highlighted as being very relevant (Herman, 2015). And this is even more important since 89% claim that the quality of the service provided is evaluated by their superior, which raises doubts about the leadership capacity in these organizations, since a good leader must have technical and behavioural skills (Górski, 2011) and need to know how to manage their employees, in order to motivate them. Hence, skills at the level of entrepreneurship/leadership are very important, especially today, marked by such turbulence (Cingula, 2013). Regarding the perception that respondents have about the skills that they and their colleagues have to work in the company, through the results of the Likert scale we can see that the agreement rate is high for most cases, that is, respondents agree that they have the skills to perform their duties (85%), to work in the company (88%) and most of the company's employees also have the skills required to perform their duties (77%). However, we cannot fail to point out that, according to INE, in the Accommodation and Catering sector, in 2019, only 13% of employees had university degrees and the majority (53%) have a basic education. With regard to the type of skills, most respondents (66%) agree that they value the behavioural skills more than the technical ones and 52% believe that they have better behavioural than technical skills. Once again, we are faced with the distinction between soft and hard skills (Muller and Turner, 2010; Parry, 1996), although in the tourism sector the preference seems to fall on soft skills (Strietska-Ilina and Tessaring, 2005). Finally, analysing the only open question, which focused on the five skills that respondents considered most important for the Tourism sector, the most mentioned was teamwork, followed by linguistic, communicational, technical and relational skills. Once more, we see the soft skills being highlighted here, namely some that had already been identified in previous studies, such as teamwork and communication skills (Strietska-Ilina and Tessaring, 2005).

## 6. CONCLUSION

We can therefore conclude that the perception that Human Resources have about their skills in 4 and 5 star hotels in the HCP is positive, even though these skills were acquired, mainly, on their own initiative and not through training actions developed by the organizations where they work. However, they recognize that, in the case of behavioural skills, professional experience has been very relevant for their development. Yet, it appears that there is a certain need for improvement in terms of linguistic, communicational and digital skills, the latter being very prominent in recent times, due to the pandemic context. It is also worth mentioning some dissatisfaction regarding the salary level and the lack of career management in the sector. Thus, the Tourism sector has here a window of opportunity to invest in the skills of its Human Resources, since not only it is growing in the city of Porto, but also because there are still many gaps in this area. This study had as main difficulty its application in a context where hotels were closed and/or in lay-off, which made it difficult to obtain a larger sample, which is one of the

biggest limitations raised here and the reason why it is an exploratory study. For future studies it is recommended to replicate this research in a context of great activity in the scope of the Tourism sector and a comparison with other regions, where Tourism is also clearly growing. Correlating the perception of workers with their sociodemographic characteristics, can also be a proposal for a future study.

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## A PHENOMENON OF DIALOGISM BETWEEN THE WESTERN AND THE ORIENTAL SCIENCE

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### ABSTRACT

*This article considers an issue of relations between interior and exterior factors, responsible for the development of science. Interior factors here stand for cognitive ones and exterior means social ones. The article also contrasts the Western scientific paradigm with the Oriental one. The former pores on the material world, the latter focuses on the aligning of the individual cognitive effort with the semiotic values of cultural environ. The article points out a hindrance to technological progress within the Oriental epistemology. This hindrance is named as the reason for the domination of the Western paradigm in the modern world. The article outlines the concept of dialog-based nature of the modern science. The paper also points out a number of key features of post-non-classic science, such as its dialog nature, embodied by plurality of approaches towards the choice of the studies' objects. Propositional strategy of studying science i.e. a classical, logic-based epistemology and a social and cultural approach are incompatible. Each of them draws its own image of science, introduces its own means and divides the scientific field into different subsections. Epistemology of the future has to find a way to merge those strategies together. It is also pointed out, that in parallel to constructive dialogism, a dogmatic monologism could be replaced with relativistic pluralism, also present within the current discourse.*

**Keywords:** *science, philosophy of science, values, oriental culture, dialogism*

### 1. INTRODUCTION

After studying Japanese model of science and comparing it to the western one at the start of the XX century, T. Grigorieva concluded, that their mutual differences could be traced back to the epistemological priorities. The European science tended to “favor the material (letting religion handle any spiritual insights)”. Meanwhile the Oriental science was actively dealing with “the world of spiritual and psychological”, in its pursuit to synchronize the value-semiotic context of culture with its natural environment and to maintain the status quo of economic and social development of human society with “global continuum”. In other words, the Oriental science was trying to establish a stable communication between humanity and nature and to uphold this hybrid system (Grigorieva 14). Japanese tradition, being heavily influenced by Zen, put a heavy emphasis on “spiritual maturity”, facilitated by transformative experiences. Unlike, say, Protestantism, Zen does not consider creative capabilities of an individual to be bestowed upon them by “providence” but rather developed via specific practices of “living through”, “feeling through” and “intergrowth”. Presumably, upon reaching a certain level of spiritual growth a person shall combine their insights with professional skills and critical thinking in order to realize their creative potential not as an amateur, but as a professional (Rodicheva 114).

This focus on interconnected nature of culture has created a unique set of classes within Oriental epistemology. The last decade have proven this set to be compatible with the paradigm of modern western physics.

## 2. FORMULATION OF THE PROBLEM

One has to admit, that the oriental societies had generally segregated its paradigm and accepted a western one (for reference see Japan, during the restoration of Meiji (1867-68)). One possible reason for this being: the aforementioned classical eastern view is holistic and environmentally oriented, which prevents it from facilitating the development of modern complex technology. That being said, technological saturation of Japanese culture had led to the new environmental and social issues. Society has reacted by retracting from sensationalism to idealism. The specific form this trend took was reappearance of the pre-restoration, Zen-based cultural facets. In the 1960-s Kawabata Yasunari, an acclaimed writer in his own right had conducted a detailed retrospective of the Japanese culture. Upon concluding it he regrettably admitted that Japanese literature have peaked during the Middle ages (namely Heian and Genroku periods) and was in decline after the country have opened its borders (Yasunari 27). This might be considered a reference to a cultural studies' "regression factor", often pointed out in many westernized cultures. Japan, despite its demonstrable success, is still amongst them. What's noteworthy is the somewhat similar trend, emerging within the Western cultural discourse. The West was dedicated to science and scientism (and for good reason) for a long time. Yet today it has adopted the same traditionalist idea of going "back to the roots". But, where the Oriental science strives to reach its own cultural foundation, the West is balancing between two approaches: The first one pursues an ethical angle, being essentially a moderate version of idealized conservatism. The second one, an epistemological one, is an attempt at a shift towards the "roots" of the eastern counterparts. And such a shift shouldn't be considered impossible, because to this day a number of researchers have pointed out a lack of fundamental schisms between those two worldviews.

## 3. RESULTS

At the turn of the XXI century the debate between an organic and an inorganic (the latter one stemming broadly speaking from Newtonian and Cartesian one) worldviews was summarized by N. Lossky. He believed those two extremes to be "the main distinction amongst philosophers studying the world". Lossky himself took the side of organic worldview (organic meaning having inner integrity and seamless interconnectivity). As he puts it: "the whole is fundamental, so disparate elements are only possible within this unity. Hence the world cannot be interpreted as mere interaction of any combination of elements A and B and so forth" (Lossky341). So an organic worldview serves as a basis for modern relational holism. But the very same interpretation of the nature of the world in its initial form can be found within Zen and Tao. They too intend to better structure a human conciseness and stir it towards organic understanding of the world. For this reason, American physicist and a philosopher of science F. Capra have picked them as reference points in his book "Tao of physics", dedicated to comparative analysis of conceptual basis of modern physics. A Russian sinologist and a translator of Taoist anthologies V.Malyavin also attempted to explain the rising popularity of systematic research of Tao ideas in recent years. His interpretation goes as follows: "our era longs to overcome the egocentric worldview and a "Faustian human" that gave birth to Modern philosophy. Taoists are very good at spotting flaws in seemingly concrete pillars of positive knowledge. They tend to lead their audience to ambiguity and unmanifest potential, where the spirit feels the danger and glee of eternal mystery of being." (Malyavin5). Although many core elements of positivism faced reconsideration in the light of quantum physics, the idea of duality (and more specifically the duality of subject and object) stands strong. G. Bashlyar was trying

to articulate the criteria for scientific objectivity, stating it to be possible “only if we will discard an object as is, if we will overcome the glamour of a choice once made, if we will disprove ideas brought by basic observations” (Bashlyar11). M. Bachtin has named a dialogue nature of post-non-classic science its key aspect, meaning that it dictates a multitude of approaches to the object of studies of various natures. The understanding of reality as interpreted by quantum physics and the subject-object relations integral to this paradigm allows us to label the post-non-classic science as epistemologically quantum one. The idea that the representation of the object and even its very nature depends not only on the material components but also on means and ways of our thinking is developed by G. Schedrovitsky, V. Gubin, M. Sapunov. When epistemology abandons scientism it is naturally drawn to Husserl’s Lifeworld as a host to fundamental abstractions of scientific cognition. In his latest works Husserl had outlined a number of European cultural and scientific issues he attributed to the loss of such rootedness. The late Wittgenstein and his followers’ ideas of the link between an ordinary language and scientific cognition have laid groundwork for modern studies concerning scientific and regular knowledge. For instance, V. Solovyov had criticized an elementary (formal) logic, deeming it to be useful only as a teaching aid and grammar of thinking. According to Solovyov a philosophical logic has to be based on organic logic. It shall serve as an alternative to empirical logic (due to being replaced because of its limitations) and rational logic of Hegel (the one, Solovyov feels, lacks any substance). Concerning the latter, Solovyov wrote: Hegel states that any given reality is determined by logical categories. He also insists that those categories are the result of autonomous Idea’s development. However, an Idea in and of itself, with no substance is a hollow word. Any development of such notion would have been a perpetual creation out of nothing. Hence Hegel’s logic, while containing undeniable true cases of deduction and transitions, lacks any actual substance. It is an act of thinking devoid of thought (Solovyov216-217). Solovyov’s views were taken even further by Russian existentialist L. Shestov. He considered revelations, and not logical conclusions, to hold potential for European philosophy and its growth. In his book “Athens and Jerusalem” Shestov was contrasting strict logic of the former with the mysticism of the latter. Shestov was adhering to irrational epistemological strategies, and so insisted “scientific philosophy needs its Cervantes to show it the way to the truth outside the barbaric, evidence based one” (Shestov170). And yet, such insistent discrimination against logic in Europe was mirrored by the deep rooted belief in universal role logic played in any research and, how Wittgenstein put it, “exploring the nature of things” (Wittgenstein72). Science was considered to be a purely cognizant activity for a long time. And it was studied epistemologically. Today, however, it seems evident that “social and cultural basis as well as a worldview in general, makes up fundamental elements of the analysis of science and should be reflected upon first, if we are to study science in its human attributes” (Sukhanova104). Science is no mere cognition. It is a special sort of society, a set of values and a form of discourse. Propositional strategy of studying science i.e. a classical, logic-based epistemology and a social and cultural approach are incompatible. Each of them draws its own image of science, introduces its own means and divides the scientific field into different subsections. Epistemology of the future has to find a way to merge those strategies together. For instance, G. Pomeranz had described such a cultural dialog in a following way: “this conversation will further the westernization of the East and orientalizing of the West. In no way does it prevent those cultures from going back to their cultural roots. On the contrary, spiritually “The East” (which is in many ways still Medieval ) is closer to the European Middle ages than to Modern Europe”(Pomeranz40). V. Bibler presents a different take on the dialog in question. He interprets it as a parallel interaction of mentalities. “Whatever we want it or not, our minds are a battlefield of numerous cultural patterns. That of the East and the West, of Middle ages and Modernity, of Antiquity and the present day” he says (Bibler19). A constructive dialogism requires tolerance and moral responsibility.

But dialogism is not the only possible alternative to monologism and its advent is not inevitable. The disillusionment in the concept of absolute truth causes a trend of relativistic pluralism. Yet even the pluralism may not serve as a solid solution, for it lacks the common ground, necessary for a meaningful consensus. The modern rational mind has to be built upon a foundation of constructive cultural interactions, capable of producing tangible results. It naturally confronts relativism as well as pluralism and dogmatic monologism. More sophisticated forms of monologism could engage in an open dialog, but usually treats it as a mean of disposing of points of view.

#### 4. CONCLUSION

We consider the issue of dialogism, this article tackles, to be the sufficient basis for assert the convergence of two cultural macro systems: the western science and the oriental philosophy. The dialog of cultures here could also be interpreted as a dialog of sciences. Regardless, we consider the appeal to the foundation of Oriental mentality to be an inevitable consequence of the cultural trends within the modern science. Another essential point to make here is the fact that the duality of the West and the East is not being used here as a shorthand for polarizing extremes of modern scientific field. It should rather be interpreted as counterpoints of two cultural identities, articulated within the European (Western) and East-Asian (primarily Japanese) social environment. We tried to distance ourselves from this dichotomy on several occasions. It was necessary to consider natural convergences of Western and Oriental discourses within the scientific and philosophical worldviews. Our conclusion hereby is that a modern mind should permanently reside in the state of dialog, in which any conclusion is temporary and there is always a way for further discussion and clarification. The Oriental philosophy is undoubtedly has a place in the context of modern scientific, ethical, religious and esthetical paradigms. It too strives to limit rationalistic monopoly on interpretation of the natural world; it critically analyzes the mechanism and reductionism of the modern science; it pays close attention to human side of the discourse and intends to develop and spread truly pluralistic social interactions, based on compromise.

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## **BENEFITS AND RISKS OF JOINING EUROPEAN ECONOMIC AND MONETARY UNION: CROATIAN PERSPECTIVE**

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### **ABSTRACT**

*Economic and monetary unions have become a crucial part of the global economy through the last several decades. There is now some form of an economic or monetary union appearing on every continent. Majority of world trade needs to abide by bilateral trade agreements established either between two economic and monetary unions or between an individual country and an economic and monetary union. The paper deals with effects of joining the European Economy and Monetary Union (EMU), a topic that is often a matter of public debate, especially in potential member states like Croatia. In Croatia the public has been divided on the issues since Croatia applied to join the European Union, the divide in Croatia has been more in favour towards the negative consequences since 2014. However recently, the public opinion is starting to shift towards a more positive outcome as Croatia is preparing to enter the EMU. The decision to join a monetary union, specifically the EMU is not an easy and straightforward one. And such is the case for Croatia as well, the issue is complex with many benefits and risks facing Croatia in its path of accession into the EMU. Theory of optimum currency areas, as well as EMU criteria are analysed on the case of Croatia, as an important guidance to convergence and a successful integration into the EMU. A decision whether a country should join an economic and monetary union is a complex one, with each country facing a different set of benefits and risks.*

**Keywords:** *benefits, risks, European Economic and Monetary Union, Croatia*

### **1. INTRODUCTION**

The topic at hand, effects of joining the European Economy and Monetary Union (EMU) is often a matter of public debate, especially in potential member states like Croatia. In Croatia the public has been divided on the issues since Croatia applied to join the EU, the divide in Croatia has been more in favor towards the negative consequences since 2014. However recently due to a higher prominence of the topic, the public opinion is starting to shift towards a more positive outcome as the country is preparing to enter the EMU (European Commission, 2020). The working hypothesis of this paper is that a decision whether a country should join an economic and monetary union is a complex one, with each country is facing a different set of benefits and risks. Therefore, it is necessary to properly educate the general population on those benefits and risks in order to make an informed decision. The paper consist of four parts. After this introductory part, the second part consists of brief history and purpose of economic and monetary unions. Third part deals with the benefits and risks of joining the EMU for Croatia. The fourth part represents conclusion.

### **2. ECONOMIC AND MONETARY UNIONS: BRIEF HISTORY AND PURPOSE**

While many would believe that the idea for political and economic integrations is the product of post Second World War Europe and the subsequent need for peace and economic cooperation, the first economic and monetary integrations happened much earlier in Europe.

During the 19<sup>th</sup> century there were a few cases of monetary unions in Europe preceding the modern-day unions. Namely the Germany Monetary Union which was created throughout the late 30s and early 40s of the 19<sup>th</sup> century. This monetary union was put in place in all former German states and was effective until the political unification of Germany under Otto Von Bismarck in 1871. This monetary union was in turn preceded by a customs union in former German speaking states (except Austria), the customs union was called Zollverein. Zollverein was highly important as it was the first time in history that sovereign countries disbanded trade barriers among themselves, allowing a higher body to set tariffs in their name. Zollverein customs union played a crucial role in the later unification of German states by leading to the creation of the German Monetary Union, which in turn led to the eventual unification of German states (Keller and Shiue, 2013). Furthermore, there was the Latin Monetary Union (LMU) which lasted from 1865 until the start of World War 1, though formally it was disbanded in 1927. The founding member states of the Latin Monetary Union were France, Italy, Belgium and Switzerland. Unlike the Zollverein, the LMU failed to bring the founding countries closer together in the long term (Einaudi, 2018). Finally, the last major monetary union is the Scandinavian Monetary Union (SMU) which was founded on the example of the Latin Monetary Union. It tried to mimic the LMU and lasted from 1873 until the onset of First World War which sparked a series of actions. Those events gradually led to the downfall of the SMU and its formal dissolution in 1924. It was founded between Denmark, Sweden and Norway (Talia, 2004). It would be important to note that due to the technical limitations of the previously used metallic standard, majority of European countries in the 19<sup>th</sup> century was moving towards a gold standard, or in the case of the Latin Monetary Union towards a gold-silver standard. By 1860s the gold standard dominated the world trade and economy up until First World War. During which the treasury notes replaced the gold in circulation, even though from a legal perspective the gold standard was not yet abandoned. The gold standard saw a short revival after the First World War in a changed form until the Great Depression of 1929 when it was completely abandoned as a project in much of the world economy (Cooper et al., 1982). Later in the 20<sup>th</sup> century, another example of a monetary and economic union has appeared between the countries of Belgium and Luxembourg, forming the Belgium-Luxembourg Economic Union (BLEU) with a shared currency being Franc. BLEU was in place from 1922 up until 1998 when the previously used Franc was replaced with the newly introduced Euro. BLEU can be considered as an example of a successful economic and monetary union attempt, although on a much smaller scale than the current EMU in Europe. BLEU is also often seen as a precursor for the Benelux union which was established in 1944. Benelux was established by the governments in exile of the three nations during the Second World War. The governments took refuge in London during the exile and agreed upon the need for improved cooperation in future matters (Luxembourg Government, 2018). During the 19<sup>th</sup> century, the advanced countries of the world, mainly in Europe were going through the process of industrial revolution. This process caused a surge in production capabilities of countries, leading to a significant increase in international trade. For example, in United Kingdom, through the 19<sup>th</sup> century the average rate of growth of international trade was 3.75 percentage points every year (Deane and Cole, 1962). Similar situation was happening in all European countries with an increasing amount of trade happening between nations, especially large colonial empires of the time. Therefore, part of the reason why the three original monetary unions have been created is out of necessity due to increasing trade between the member states. So, with the creation of a monetary union, for example the Latin monetary Union which was based on a gold-silver standard, the trade between the member states was made much easier and simpler as well as faster which was crucial when trading. With the newly introduced gold-silver standard a trader from Italy could easily trade his goods in France for French gold or silver currency (Franc). Upon his return to Italy he could be sure that he will be able to exchange those Franc for an equivalent number of

Italian gold or silver Lire, and vice-versa (Fendel and Maurer, 2015). However, that wasn't the only effect the economic and monetary unions had on the states at that time. Additional effect in the case of the German Monetary Union is that it provided the additional push towards the eventual unification of the German states in 1871. While it was not the sole or the biggest reasons for the unification, the increase in economic collaboration and trade had a significant impact on the overall social and political partnership between the states improving the public opinion of each other leading to an easier acceptance of the unification (Keller and Shiue, 2013).

### **3. CASE STUDY ANALYSIS OF CROATIA: BENEFITS AND RISKS**

During the analysis of risks and benefits, raw data will be used in order to achieve objectivity about the topic and be able to make clear conclusions based on the data. However, it is also important to first examine the opinions of citizens living in countries that have already adopted the Euro (euro zone), as well as those that are yet to adopt the Euro in the future (example of Croatia). Majority of people in the euro zone believe that the Euro adoption had a net positive impact on their country. It can also be seen that people are more satisfied with the Euro in long term as the percentage of people that believe there have been net positive impacts has increased from 56% in 2011 up to 65% in 2019. At the same time period the percent of people that believe there have been negative consequences has decreased from 36% down to 26%. The percent of people that are indecisive or don't know has remained somewhat unchanged. As such it can be concluded that the 10% of people having negative opinions have changed their opinions towards positive impacts (European Commission, 2019). Comparing the opinion of people in Croatia on the impact of Euro adoption on countries that are already using it, with the previous question, it is obvious that the outlook of Croatian citizens on the impacts of Euro adoption on countries in the euro zone is significantly more negative. There were 44% of people believing that the impact was positive in 2014. However, with the information becoming more available and numerous, as well as with the increased focus of Croatian National Bank (HNB) on promoting the Euro, 54% of citizens in 2020 now think that the euro zone countries had positive outcomes from euro adoption compared to 65% of people having positive outlook in the euro zone (European Commission, 2020). There is also the divide in the Croatian society about the issue with the prevailing majority being against the introduction of the Euro since Croatia joined the EU in 2013. It can also be observed a trend of public opinion shifting towards a positive outcome for the country as the topic has gained more prominence in Croatia. The most trusted source of information on the topic in Croatia is the HNB. A survey conducted concluded that 57% of tested subjects said that they believe the HNB is the most trusted source of information on the changeover, closely followed by various consumer associations 50% and the European Institutions 46% (European Commission, 2020). This can explain the increase in the positive outlook of the Euro acceptance as the most trusted source of information which is HNB, focused on educating the public on the topic in recent years. Taking into account the opinion of Croatian citizens on the effects of adoption of the Euro for them personally, the opinion is that the effects on them personally are going to be somewhat more positive compared to the effects on Croatia as a country. In 2014, 44% of people thought that there would be positive consequences on them personally while 40% thought that Croatia would experiences positive outcomes. However, the difference increased and in 2020, only 47% of people think that Croatia would experience positive outcomes, while 53% believe they would have positive outcomes for themselves personally from Euro adoption (European Commission, 2020). Additionally, in order to better understand the risks and benefits of Croatia joining it is important to understand the optimal currency area (OCA) theory, as well as the criteria set to be able fully profit from the OCA. According to Robert A. Mundell, there are four important criteria that need to be met before a country can join the OCA and profit from it (Mundell, 1961). His theory deals with the explanation under which circumstances will a country have a net benefit from entering an OCA.

The first criteria for OCA are very high labor mobility rates in the area. Mobility rates can be improved through a series of policies. For example, it is suggested that governments should decrease administrative expenses and reduce time consumption by implementing visa-free travel, decreasing border checks and various restrictions on cross-border work and pensions (Mundell, 1961). Second criteria includes in its scope a high volumes of capital movement and payments within the OCA. The first two criteria will provide the economic environment needed for free flow of capital and labor through the OCA according to various market forces (Mundell, 1961). Third criteria concerns a highly unpopular and debated topic, especially in the more developed regions of the OCA. It states that the OCA should adopt a policy of currency risk-sharing. Which means that there should be a transfer of capital from regions with surpluses to regions with deficits. EMU in its original policy had a clause that banned bail-outs within the EMU. As EMU experienced a debt crisis from 2009-2015, it is often considered that the EMU failed to meet this criterion. Due to the mentioned crisis, it became apparent that continuing with the no-bailout policy was not sustainable in the long-term for the euro zone (Mundell, 1961). Fourth criteria demand that OCA countries have similar business cycles, preferably they should have synchronized business cycles. This is a necessary criterion due to the use of the same monetary policy, which would have a counter effect in unsynchronized countries (Mundell, 1961). Besides the four main criteria, some other economist such as McKinnon (1963) and Kenen (1969) theorize that OCA countries should also fulfil a criterion of strong trade connections, with high volumes of trade between them. High volumes of trade between countries will signify that those countries would benefit from a shared currency due to decreased transaction costs and removed exchange rates. One more additional criteria set is that the countries in the OCA should have an economy which is highly diversified and limiting specialization. If this criterion is met, OCA countries will reduce the risk of experiencing asymmetric shocks to the economy.

### **3.1. Benefits of Joining European Economic and Monetary Union for Croatia**

While examining the benefits of entering the EMU for Croatia, the first aspect that will be observed is the trade relationships of Croatia. Since this will be one of the major benefits for Croatia and will have both positive and long-term benefits for the country and many of the exporters in the nation. Croatia has high volume of trade with Euro zone countries. In 2019 almost 60% of all exports from Croatia went to Euro zone member states and over 60% of imports came from those same countries. The fact that Croatia conducts most of its trade, both exports and imports with the eurozone countries means that Croatia does satisfy the additional criterion for OCA set by McKinnon and Kenen. Therefore, we can say that Croatia would benefit in the area of trade by joining the Euro zone due to decreased transaction and conversion costs. Additional effects would include the increase in transparency and the improvement in price comparability as well as removal of exchange rate uncertainties (McKinnon, 1963; Kenen, 1969, International Monetary Fund, 2020). Compared to the case study of Slovakia, we can see that in the case of Croatia the percentage share of trade with the euro zone prior to the entering into the EMU has been increasing gradually, while in the case of Slovakia where the trade percentage of total with the euro zone has been gradually decreasing. This might result in a comparably better situation for Croatia with the acceptance of the Euro. Additional benefit for Croatia is the fact that in 2018, 75.3% of all banks register in Croatia, have their headquarters and origins in euro area countries. This means that there is a high level of financial and banking sector integration with the euro zone. As there is a high level of financial integration, Croatia seems to be a good candidate for OCA as it fulfils the second criterion set by Mundell (1961) (Brkić and Šabić, 2018). When compared to the case of Slovakia which also sold majority of its largest banks to foreign banking groups in the EU, we can see that Croatia is on a similar path.

According to the data collected and analyzed for the period of 1998 to 2016, Croatia was deemed to be a good candidate concerning the criterion of convergence and synchronization of business cycles. In the observed period, due to high levels of interactions with the euro zone area members, the synchronization of the Croatian business cycles with the euro zone business cycles has improved over time, moving towards a complete synchronization. Due to this fact, there is a reduced risk of asymmetric shocks affecting Croatia (Kotarac et al., 2017). Regarding the structure of Croatian national debt by the currency of issue, an overwhelming amount of debt is in foreign currency, namely Euros. This structure of debt places the Croatian economy in a high-risk scenario concerning currency risk. If the Croatian HRK would depreciate to Euro, the debt burden would be considerably increased putting repayment of the debt at risk. Therefore, it can be concluded that Croatia would benefit from entering the EMU as such the currency risk would be eliminated severely easing the repayment of debt for Croatia. While the third criteria by Mundell of risk sharing and the theory of flow of capital from more developed region to less developed regions is a highly debated one it could prove as a benefit for Croatia. While it may be an unpopular policy to conduct, the sovereign debt crisis of the euro zone and the bankruptcy of Greece proved the unsustainability of the no-bailout policy. Therefore, as Croatia is a less developed region compared to the euro zone, it could benefit from the additional inflow of funds and capital dedicated to developing its economy. Additional benefits for the Croatian economy and its citizens are the removal of conversion costs when travelling or purchasing items priced in Euros, as well as a reduction in cross-border payments and transitions. The reduction in conversion costs may also bring a benefit of slight improvement in tourism sector due to the large volume of cash transaction. Tourist may feel more comfortable purchasing items in a currency they know and use (Euro) as well as the additional effect of leaving more money for tourist to use which is usually lost on conversion costs (Croatian National Bank, 2017). It is often also speculated that adoption of Euro would have positive effects on foreign direct investments (FDI) inflow, however the same was speculated when Croatia entered the EU. But the data shows that there was no significant increase in FDI after Croatia joined the EU, as such the speculation that there will be an increase in FDI after joining the euro zone must be considered with caution (Bukovšak et al., 2017). Also, as it has already been mentioned in the case of Slovakia, FDI inflow did not significantly change with the adoption of the Euro in Slovakia, as such same can be expected in the case of Croatia. However, Croatia could learn from Slovakia that while the mere fact of joining the euro zone won't increase FDI, significant structural and market reforms could lead to a boom in FDI.

### **3.2. Risks of Joining European Economic and Monetary Union for Croatia**

According to Kenen (1969) and McKinnon (1963) criteria set, in order for a country to be eligible to enter an OCA, it needs to be ensured that the countries in the OCA are not overly specialized and have a high degree of economic diversification. In this context Croatia does not fulfill the necessary criteria as the Croatian economy is highly undiversified. More than 20% of the Croatian GDP income comes from sectors related to the tourism industry. This also puts Croatia at a risk of macroeconomic vulnerability and shocks (Brkić and Šabić, 2018). Since tourism is an industry highly dependent on external factors such as geopolitical conditions, the climate, social trends and various other factors. As we saw recently in 2020 with the COVID-19 global pandemic can also have severe consequences for the tourism sector. All of these factors put Croatia in a high volatility and risk situation. Therefore, concerning the economic diversification, Croatia does not meet the necessary criteria for the OCA. Analysing the unemployment rates in Croatia by counties from years 2012 to 2019, according to the Croatian Bureau of Statistics data, a very significant difference in unemployment rates through different region of Croatia can be seen. As such from the data we can conclude that there are very low work force mobility rates within Croatia.

From this perspective it is apparent that Croatia does not meet the criteria for OCA set by Mundell (1961) which requires high labor force mobility. However, there is an apparent trend of Croatian workers leaving Croatia to work in other highly developed countries of the EU since the Croatian accession in 2013. According to the Croatian Bureau of Statistics over 50 thousand workers left Croatia only in 2014 and 2015. While it may seem that due to this Croatia does meet the criteria, the trend is that there are more people emigrating from Croatia than are immigrating to Croatia causing a high outflow of workforce. With Croatia joining the EMU, it can be assumed that the outflow will stay at the same rate or even increase. This presents a strong risk for Croatian economy and government. When analyzing annual net earnings of a full-time single worker earning an average wage without any children, it is apparent that people in Croatia have a much lower annual net income compared to the euro zone members. This would pose a problem due to the heterogeneous distribution of income through the EMU. Income that is not equally dispersed through the OCA poses a problem as it could cause asymmetric shocks to happen. However, there is a positive trend of improvement in the data as in 2013 Croatian workers were earning just 49.64% of euro zone workers income. But in 2018 that difference has decreased with Croatian workers now earning 54.04% of euro zone workers (Eurostat, 2020). Another major risk that Croatia might face in the EMU is very large and expensive public sector similar to Greece as it has been mentioned in the case study of Greece. There are currently over 237,211 registered people employed in the Croatian public sector compared to the total active labor force of Croatia which is around 1,780,000 people. Out of the active labor force almost 1.52 million were employed in 2020. This means that 15.61% of the total employed population is currently working in the public sector (Ministry of administration, 2020). In order for Croatia to decrease the government expenditure and reduce debt, it is necessary for Croatia to reduce the size of the public sector while improving the effectiveness of its through technological improvements. However, it is important to mention that unlike Greece, Croatia is not dependent on external financing and debt to fund its budget. A possible side-effect of Croatia joining the EMU is the subsequent loss of independent monetary policy. With the loss of independent monetary policy Croatia will no longer have the ability to control exchange rate and interest rate channels. However, both of these will have minor effect. In reality the Croatian economy is very closely integrated with the euro zone as it has already been mentioned that majority of banking and financial institutions in Croatia have their origin in the EU. This severely hinders the Croatian control of interest rate channels even if it had an independent monetary policy. Secondly the control over exchange rate channels is also limited due to two factors in play. First factor being the high volume of foreign currency in Croatian debt structure as it has already been analyzed, this limits the ability to conduct independent monetary policy. Second factor being the fact that HRK has been pegged against the Euro since its creation and the exchange rates haven't significantly changed since then. Unlike Croatia, Greece had an economy that was dependent on cheap loans to service the public debt and spending. As such in case of Greece any policy conducted by the European Central Bank (ECB) for the benefit of the central European states would have the opposite effect on Greece due to the widely different economic situation. Another main concern that is often very prominent in media is the rise of prices after the adoption of the Euro. While it is very difficult to calculate the effect of the conversion itself on the inflation levels due to a number of other varying factors affecting the level of inflation. Some studies have attempted to estimate the effect of conversion alone on inflation rates (HICP) and most studies agree that the effect is anywhere from 0.05% - 0.34% increase in prices (Felix, 2008; Sturm et al., 2009). Additional research shows that there are some ways a country joining the euro zone may reduce the effects on inflation levels. Namely it is recommended that during the phase of transition, it should be mandated that prices need to be shown in both the euro and previously used currency. Countries which used the tactic of dual prices in the transition period show a weaker effect of conversion on price increases (Eife,

2006). Estimation by the Croatian National Bank is that there will be an increase of 0.2 percentage points in the consumer price index after adopting the Euro. Other risks which Croatia would face are mostly one-off costs which while significant will have less of an effect in the long term. The most prominent costs are conversion costs for the country as all current banknotes and coins would need to be replaced with the circulation of the new currency. Various national systems such as the accounting system and databases would need to be updated, coupled with the cost of educating the public through various campaigns. Average conversion costs for current euro zone states amount to a total of 0.5% of GDP (Croatian National Bank, 2017). Other costs the country would face is the mandatory transfer of funds to the ECB as well as transferring a portion of the national reserves. All together amounting to a total cost of 713 million Euro (Croatian National Bank, 2017). The country would also face some costs in the long term as well, mainly coming from participation in the European Stability Mechanism. In the first 5 years of participation, there would be a required payment of 425 million Euro. After finishing the transitional period of 12 years, that obligation would amount to 690 million Euros (Croatian National Bank, 2017). To summarize, it is important to notice that there is a wide array of both potential benefits and potential risks that could affect Croatia with the acceptance of Euro as its currency. If 4 main criteria of joining the OCA set by Mundell are analyzed, as well as two additional criteria by McKinnon and Kenen, we can see that Croatia fulfills 3 of the main criteria and one of the additional criteria for the OCA. That means Croatia fulfills 4 out of the 6 criteria for the euro zone. While the situation is not ideal, there is some improvement in the situation. The two main criteria that haven't been met is the diversification and removal of specialization, which remains one of the largest problems of the Croatian economy as it is overly dependent on the variable sector of tourism. The second criteria being the high mobility of the labor force. This problem can be observed from two sides, the side that there is low mobility of work force inside of Croatia, but at the same time there is a high mobility of workers leaving Croatia for the euro zone. However, both leave negative consequences for the Croatian economy. Due to the factors above, it can be concluded that while Croatia does meet most of the criteria for joining the OCA, the country should be cautious in this procedure and should attempt to learn from cases of previous eurozone members in order to reduce negative consequences as much as possible.

#### **4. CONCLUSION**

The decision to join a monetary union, specifically the EMU is not an easy and straightforward one. And such is the case for Croatia as well, the issue is complex with many benefits and risks facing Croatia in its path of accession into the EMU. From the case analysis, it can be seen that when a country joins the EMU, the results and consequences can be widely different for the country depending on the specific situation of the country prior to entering the EMU and the abilities of the government to fully use the benefits and limiting the risks as much as possible. From the analysis of the current situation of Croatia, it can be seen that Croatia meets most of the OCA criteria set by Mundell. Therefore, it can be concluded while there are still many risks the country could face, it is possible to mitigate them with appropriate reforms and structural changes. However, the approach to the adoption of the Euro must be conducted carefully and, in the process, educating the public as much as possible on the issue in order to ease the transition process to the new currency. Despite several risk facing Croatia, there are also numerous potential benefits which according to the data will be long-term and significant for the country. To conclude, it is necessary to continue the research on the topic and increase the focus on reforms and implementing new policies which would benefit Croatia in the EMU. Since Croatia still has several years until the accession to the EMU, there is still enough time for Croatia to better prepare for the Euro adoption through education of the public and governmental policies being introduced.



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## SITUATIONAL PRICING: THE ROLE OF WINE CONSUMPTION OCCASION ON PRICE DECISION

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### **ABSTRACT**

*Wine companies are usually operating in larger and diverse markets and consumers show different needs. Given resource constraints, companies must segment the market, because they cannot cover the entire market or, if they do, they need to adopt and implement an appropriate marketing strategy. Market segmentation enables to treat consumers differently through a marketing strategy geared to this purpose. There are several segmentation criteria and one of them is the wine consumption occasion. Here, like other authors do, we consider the following five situations where the consumer pays for a bottle of wine: to drink at home, to drink at home with friends, to drink at a restaurant, to give as a gift and in businesses. We asked to 133 consumers, randomly selected, how much they were willing to pay in each situation: < 1 Euro; 1 – 2 Euros; 2 – 5 Euros; 5 – 10 Euros; 10 – 20 Euros; > 20 Euros. We concluded that the price decision depends on the wine consumption occasion (Friedman test,  $p$ -value=0,000). This is in accordance with the literature. Furthermore, we found something that, to our knowledge, is new: at a 5% level of significance, there is no difference between the situations “to drink at home” and “to drink at home with friends” and also between “to drink at a restaurant”, “to give as a gift” and “in businesses”; the difference lies between the former two situations and the latter three. This means that, for market segmentation, we can consider two instead of five wine consumption occasions. We further investigate how this conclusion depends on consumer gender.*

**Keywords:** *Consumption situation, market segmentation, price, wine*

### **1. INTRODUCTION**

Wine marketing theory defines wine as a set of cues that attempt to meet the needs of its consumers (Spawton, 1991). In addition, the dynamics of the market changed consumer behavior which had an impact on the approach of new customers as quality became a multidimensional concept. Thus, buying decision is influenced by a large set of aspects. The consumer is confronted with a wide set of information which influences the purchase (Lockskin & Hall, 2003). Besides price, product characteristics, product brand, country of origin, grape variety, the name of the winemaker, the vintage, the alcohol content, taste, packaging and quality are also motivation factors (Lockskin & Hall, 2003). Belk (1974) suggests that any investigation of buyer behavior that ignores situational effects is likely to provide unreliable results. Quester and Smart (1998) claim the importance of market segmentation by consumption situations, considering that such analysis can reduce the target of companies, allowing acting more profitably. Such segmentation will enable to establish which attributes are most valued in each consumption situation, which will grant companies to draw relevant conclusions about the segments in which they intend to act. This study explores the influence of consumption situation on consumers' assessment of price, by analyzing the influence of consumption situation on price decisions. This type of information provides new knowledge about consumer behavior. The paper proceeds as follows.

After this brief introduction and a literature review, the methodology developed and the data collection approach are presented. This is followed by the results and their discussion and the paper ends with the conclusions with some suggestions for further research.

## **2. LITERATURE REVIEW**

Wine is an information-intensive experience product and therefore buying situation is frequently considered as a complex one in which a high degree of associated risk is perceived (Bruwer et al., 2002). According to Lockshin & Rhodus (1993), quality perceptions of wine are based on intrinsic cues, such as grape variety, alcohol content and wine style, that are related to the product itself and the processing method as well, as on extrinsic cues, comprising price, packaging, labeling and brand name, which can be altered without actually changing the product. The quality of wine, however, is difficult to evaluate objectively or precisely measured (Oczkowski, 2001). Quester and Smart (1998) support that quality is a characteristic of wine that is difficult to define and to communicate. Since the notion of quality is difficult to specify, price has been considered a reliable indicator of wine quality. However, there is controversy regarding the association of quality with the price of wine. Some authors say that the differences in wine prices reflect the quality of the wine in a true and appropriate way because consumers cannot be deceived permanently. Rosen (1974) suggests that the attributes allow to define implicit prices according to the product attributes considered relevant by consumers. Rao and Monroe (1989) report that consumers expect that there is a positive correlation between price and quality. The predisposition of consumers to pay a premium price may come from the fact that they perceive that the brand has a superior quality even though the objective quality may not change (Sethuranm, 2003). Landon and Smith (1997) developed a market study for Bordeaux wines. The results show that the reputation has a high weight in the predisposition of the consumer to pay a certain price for the wine. The level of quality required may differ upon a diversity of circumstances including the consumption occasion. The finding that the consumption situation is reflected in the purchase intention led to the need to classify those situations. Kotler (2000) identifies the consumption situation as one of the factors that can influence the relationship between purchase intent and purchase decision, so personal preference and purchase intent are not, themselves, fully indicators of purchasing behavior. Belk (1974) defines the concept of situation as a set of particular factors occurring at a given time and place that are not interconnected with the personality, desires and capacities of the individual, nor with the attributes of the product or service and which have a systematic effect on the individual's behavior. Hall and Lockshin (1999), Olsen and Thach (2001), Olsen et al. (2003) and Ritchie (2007) suggest that the purchase of wine and its consumption are significantly influenced by the purchasing and consumption situation. They also propose that, since behavior depends on the consumption situation, they behave differently when placed in different contexts and at different times. Festinger (1954) advocates that individuals attempt to control if their opinions and evaluations of products are precise by comparing their opinions, attitudes and beliefs with referent others. When a product, as wine, has a high quantity of attributes that can only be assessed during consumption, then the ability of consumers to assess prior quality to purchase is strongly asymmetric and consumers will rely on extrinsic cues in the assessment of quality (Salaun & Flores, 2001; Antonelli, 2004). Price is an important signal for quality perception when few other cues are available, when the product cannot be evaluated or when the perceived risk of making a wrong choice is high (Dodds & Monroe, 1985). According to Spawton (1991), in the purchase of wine, price is also used to overcome perceived risk. The wine perceived price-quality relationship empowers the reasons for and magnitude of the decision to purchase to be determined, by measuring the gap between different price ranges (minimum / maximum) depending on the levels of perceived quality that consumers associate with it, thus setting up a relevant indicator of potential demand (Keown & Casey, 1995).

Recent research by Jarvis, Rungie and Lockshin (2003) shows that consumers seem most loyal to price bands. Netemeyer, Bearden and Teel (1992) suggest that some consumers are more susceptible to interpersonal influence and are likely to make purchase decisions that will result in others making positive attributions about them. Thus, due to social comparison information and reference group influence, consumers can be less concerned about price in social consumption contexts. Furthermore, Hall and Lockshin (1999) found a relationship between price and the situation where the consumer intends to drink the wine. In the same context, Orth (2005) examines situational factors related to the consumption of wine in the United States. The results show that the choice of brand and the benefits sought in a wine vary in three situations: self-consumption, hosting friends or as a gift. The price is important when the consumer buys wine for consumption but has little influence when the wine is to be offered (Stöckl, 2007). According to Olsen et al (2003), Lechmere (2005) and Barber et al. (2007), when wine is not intended for private consumption, part of the purchase process will be to evaluate the bottle by asking questions such as: "What is this wine going to say about me?" (Lechmere 2005), how will it be perceived by other people, what will appear on a table at dinner? The concern is not so much about wine and its appearance, per se, it is more about the impression it will make in the specific circumstance (Hall and Lockshin, 1999). Concern about social benefits is most often referred by younger consumers, who are more likely to have concerns about the others opinion. In this regard, Stöckl (2007) states that there are several factors that interfere with the purchasing decision process. However, their recognition, the weight of such factors can vary from high to nil, depending on the situation/occasion (Stöckl, 2007). While a low price, for example, may play an important role when consumers buy wine for consumption, it has little influence when wine is to be offered (Stöckl, 2007).

### **3. METHODOLOGY**

#### **3.1. Conceptual framework**

The purpose of this study is to investigate the following research question: Is there an influence of wine consumption situation on consumer's price decision? Specially, how wine consumption situation affects consumers price decisions? What are the situations in which consumers tend to choose expensive wines? Are there different price choices between all the consumption situations? Does gender influence consumers behavior about price decisions in different consumption occasions?

#### **3.2. Survey instrument and data collection**

A survey questionnaire method was used for data collection. In order to understand the influence of wine consumption situation on consumer's price decision, a questionnaire was submitted to a random sample of consumers in Portugal. The population is limited to wine buyers of legal drinking age (+18) purchasing wine. To make sure that the respondents were a suitable target group for wine consumption, they were first asked if they are wine consumers and how often they drink wine. A three-week period for online responding was set and 133 completed questionnaires were received. The questionnaire was divided in two parts. The first part comprises consumer's socio-demographic information: age, gender, education level and occupation. The second part included a question setting five consumption situations - at home, at home with friends, in a restaurant, to offer or in business - and five price ranges, coded from 1 to 6 - < 1 Euro, 1 – 2 Euros, 2 – 5 Euros, 5 – 10 Euros, 10 – 20 Euros and > 20 Euros. For each consumption situation, the respondent had to choose a price range.

#### **3.3. Statistical procedures**

Friedman's test and a post-hoc test were applied (Pestana and Gageiro, 2014). Friedman's test is used in paired samples to compare more than two means. It is based on the ranks  $R$  of each

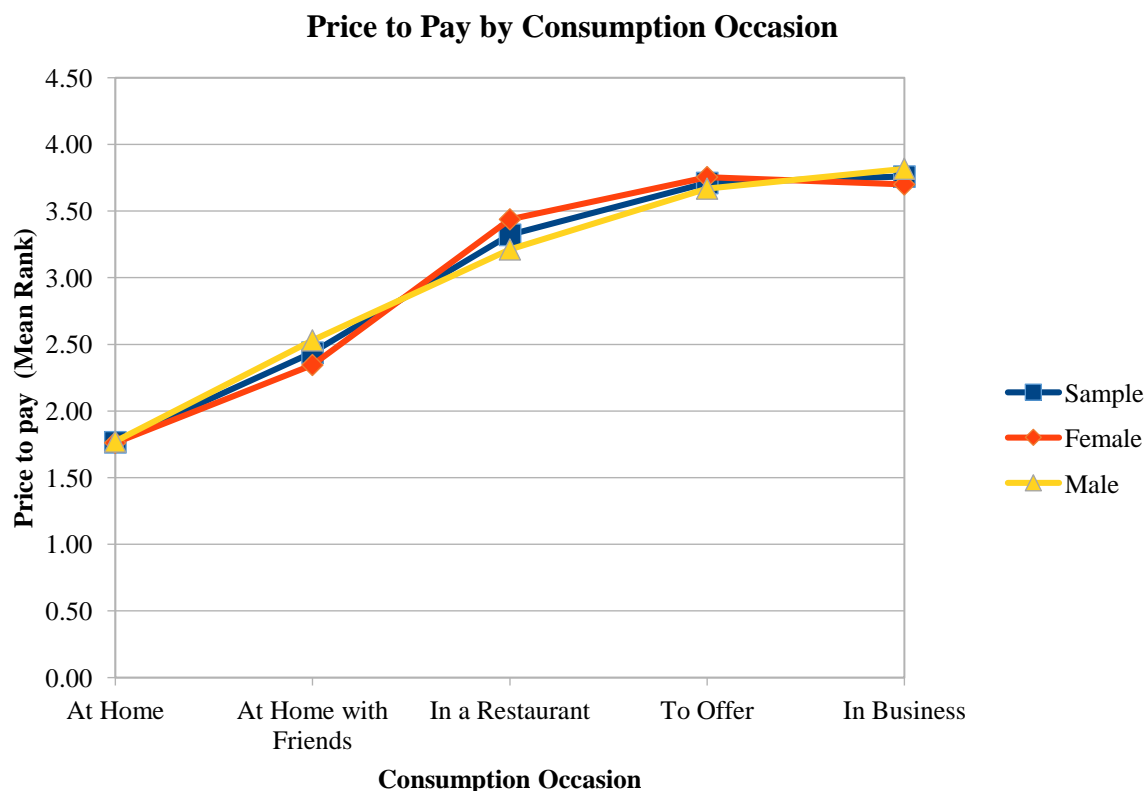
case and compares the mean scores of each variable, which is classified on an ordinal level scale. This test verifies if there is no differentiation in the preferences of the variable categories. If the null hypothesis is rejected, a post-hoc test must be used to find out where differences are. Here, the post-hoc test finds out which consumption situations differ significantly, by comparing them two by two and it only considers them different when the following inequality holds:

$$|R_p - R_q| > t_{1-\alpha/2} \sqrt{\frac{2n(A - B)}{(n - 1)(k - 1)}}$$

where  $t_{(1-\alpha/2)}$  is the quantile of order  $1-\alpha/2$  from the t-Student distribution with  $(n-1)(k-1)$  degrees of freedom,  $\alpha=5\%$  is the significance level,  $n=133$  the number of cases,  $k=5$  the number of consumption situations,  $A = \sum_{j,i} R_{ji}^2$  and  $B = A/n$ .

#### 4. RESULTS

The sample comprised 133 respondents of which 51% are male and 49% female. The figure below shows the results obtained.



*Figure 1: Price by Consumption Situation  
(Source: Own elaboration)*

Friedman's test showed that the consumption situation has influence on consumer's price decisions ( $p\text{-value}=0,000$ ). As seen in Figure 1, the price to pay tends to increase from consumption at home to consumption at home with friends, from this to consumption in restaurants, from these to offer and from this one to business. Using the post-hoc test to compare the consumption situations two by two, it was possible to conclude that wine consumption at

home and at home with friends have no statistically significant difference on consumers price decisions. The same holds for wine consumption at restaurants, to offer or in business. Comparing wine consumption at home and at home with friends with wine consumption at restaurants, to offer or in business, the results suggested that there is a statistically significant difference on consumers price decisions. Furthermore, we studied price decision differences between men and women. Evidence showed that both in the case of men (Friedman's test, p-value=0,000) and women (Friedman's test, p-value=0,000) the consumption situation has an influence on price decisions. Analyzing the changes as the consumption situation changes, it appears that the behavior of men differs from that of women. In the case of the men surveyed, the price to be paid tends to increase from at home to at home with friends, from this one to restaurants, from these to offer and this one to business. However, in the case of the women surveyed, the price to pay tends to increase from at home to at home with friends, from this one to restaurants and from these to offer, lowering from this one to business. Thus, we can conclude that men value the consumption occasion in business more than the offer, in contrast to what happens with women. Regarding the analysis of consumption situations two by two, using the post-hoc test, we concluded that the occasion of consumption being at home or at home with friends does not significantly alter the price to pay for a bottle of wine for both genders. When comparing occasions at home with at the restaurant, for offers and in business, the price decision differs significantly both for men and women. Concerning consumption occasions in the restaurant, for offer and in business, the price decisions do not differ significantly from each other, both in the case of men and women. However, when comparing the consumption situation at home with friends with at the restaurant, for offers and in business, there are differences in the price decision of men and women. In the case of men, the choice of the price of a wine for the occasion at home with friends does not differ significantly from the price to be paid in a restaurant or for an offer, but it differs if the consumption is in business. As far as women are concerned, the price to pay for a bottle of wine to drink at home with friends does not differ significantly from the price to pay in a restaurant but differs in the case of the offer or in business situations.

## 5. CONCLUSION

Wine companies face a complex task in designing an appropriate price strategy in today's environment. Wine is a multidimensional product and tasting wine may be an uncertain experience for some consumers, so it is very difficult to evaluate wine quality. Thereby, extrinsic cues tend to play an important role on consumer's perception of quality. Quality evaluation using objective measures brings some problems because consumers consumer preferences are heterogeneous (Lecocq & Visser, 2006). According to Alpert (1971), price can be an important cue to quality perception if consumers don't have enough knowledge about wine. This paper suggests that wine consumption situation has influence on consumer's price decisions. Consumers tend to buy expensive wines for special events, where quality awareness plays an important role. We concluded that the price decision depends on the wine consumption occasion. This is in accordance with the literature. Furthermore, we found something that, to our knowledge, is new: at a 5% level of significance, there is no difference between the situations "to drink at home" and "to drink at home with friends" and also between "to drink at a restaurant", "to give as a gift" and "in businesses"; the difference lies between the former two situations and the latter three. This means that, for market segmentation, we can consider two instead of five wine consumption occasions. We further investigated how this conclusion depends on consumers characteristics, namely gender. The findings showed that for both genders the consumption occasion has a significant influence on price decisions and both men and women are available to buy more expensive wines as consumption situations become more formal.

However, the results suggest that men value the consumption occasion in business more than the offer, differing to what happens in the case of women. Concerning the analysis of consumption situations two by two, using a post-hoc test, there is no evidence of differences between genders in most consumption situations. Nevertheless, when comparing the consumption situation at home with friends with at the restaurant, for offer and in business, there are differences in price decisions of men and women. Wine companies that are able to segment their customers by consumption situation and to identify the products and consumers most susceptible to the effects of the situation and are able to suggest consumption situations through communication, tend to have a set of benefits arising from it.

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## CONCEPTUAL FRAMEWORK OF TERMS CONCERNING OVERSPENDING

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### **ABSTRACT**

*Most people seek potential situations to satisfy their desires by spending money. What happens if the buying behavior turns into an uncontrollable action and produces financial problems to the individual? Current literature distinguishes between the primary and secondary types of compulsive buying behavior. This paper doesn't focus on the explanation of the psychiatric approach but the secondary type, the temporary propensity is in the center of the subject of interest. A better understanding of narratives beyond compulsive buying may help to identify this episodically changing behavior's background mechanism. This study aims to develop an understanding of overspending by diving deep in academic literature. Besides introducing Kahneman, Thaler, and Pinker's central concepts, combining different keywords (overspending, buying behavior, compulsive buying, family budget) might shed light on the involved disciplines by identifying the top journals and articles on the individual and social level. This study presents a conceptual framework that introduces the interpretation of chosen keywords in different fields and reveals the topic's transdisciplinary nature.*

**Keywords:** *overspending, compulsive buying behavior, behavioral economics, transdisciplinarity*

### **1. INTRODUCTION**

Behavioral economics received a great deal of attention in the last decades. Economists began moving from classical approaches to explain their causal processes. According to classical economics, people behave rationally on the market; they use every available source to produce goods and solve them. The phenomenon that causes disequilibrium in society will be manifested in the economy also. Fear of uncertainty seemed to be unstoppable and occurred reckless decisions. There are several marketing tools and advertisements that are used to generate artificial fear. Their strategy is to take advantage of our fear and increase their profit. Nothing spreads like fear; this phenomenon can be observed using malicious advertisements, which helps create panic and decrease demand (Füredi, 2018). They make use of our fears of scarcity and unsuccess. In these difficult times, government interventions are needed to handle the evolved pandemic situation and its social and economic consequences. Science doesn't deny that society seeks a more in-depth and more detailed explanation beyond the financial motivations and more personal drivers to spend money. It is a more highlighted topic of how others can take advantage of our anxiety, fear, and vulnerability. If people are in uncertain situations, they tend to use "Animal spirits" to solve complex problems and make decisions. Etymology also helps to identify why the inner incentives are so important in every aspect of life. "*Spiritus animalis*" is derived from the Latin language and means soul. In this case, we understand it as an economic phenomenon that refers to the economy's inconsistent elements. A parallel can be drawn between crises and changes in an individual's perception, such as self-confidence, illusions, and drivers (Akerlof & Shiller, 2009). The desire for safety drives us to accumulate goods even if we don't need them.

This behavior can be explained by considering the psychological, sociological, and economic factors, such as family background, wealth, fear, and self-control. Many experiments are based on how their decision-making process can influence consumers (Lo & Harvey, 2012; Zhang & Mao, 2016). The macro and microenvironment exploit the fact that our behavior is mostly unrealistic and unexpected. Dan Ariely, a behavioral economist, deals with the idea that we repeatedly and predictably make the wrong decisions. "Standard economics assumes that we are rational" (Ariely, 2008:239). This statement shows that we can learn from our mistakes. In reality, human beings play a significant role in our decision making. If we always make the same mistakes, maybe the way of making these wrong decisions can be changed. This is what behavioral economics is about. It seems necessary to summarize behavioral economics's main theories to understand this paper's fundamental concepts. It hypothesizes the unexpected but controllable and harmless behavior of the buyers. What happens if consumer behavior is uncontrollable, addictive, and distorts the individual's attitude that can endanger its environment's prosperity? It is time to discuss this disorder's economic effect in light of the psychological and sociological aspects and theories.

## **2. APPROACHES IN DIFFERENT DISCIPLINES**

"That's a lesson we can all learn: the more we have, the more we want. And the only cure is to break the cycle of relativity (Ariely, 2008:21)". Compulsive buying and overspending cause a similar behavior; however, different disciplines approach it in different ways. Psychiatry examines compulsive buying as a pathological behavior that is repetitive and produces problems for the individual (O'Guinn & Faber, 1989). The psychological approach is based on medical initiation. Psychology investigates overspending as a persistent, compulsive behavior, but it is not defined as a pathological phenomenon (Kukar-Kinney et al., 2016). Impulse buying is used as a synonym for overspending in the following. The meta-analysis of Amos et al. (2014) aimed to investigate different dimensions of impulse buying. Situational (e.g., retail environment, mood, presence of others), dispositional (the person's behavior differs from other's behavior in buying), and the socio-demographic factors (age, gender, ethnicity, income) were identified as the motivational components that are responsible for exhibiting impulse buying. The clinical meaning of compulsive behavior might be the key to understand the mechanism of overspending. Compulsive buying is driven by inner triggers such as stress, anxiety, perfectionism, and low self-esteem. On the other hand, impulse buying is defined as a reaction for the external mechanism, e.g., changed life circumstances and family crises. Based on the nature of evolution, compulsive buying might be classified into two groups. To the first group belong the predisposed individuals, who aim to fill some psychological needs. Circumstantial/temporary individuals form the other group, where situational cases trigger compulsive buying behavior (DeSarbo & Edwards, 1996). Different disciplines approach buying behavior from the consumer's point of view. They seek to find the answer, what are the main incentives, and which schemas are responsible for their behavior. Sociologists operate buying behavior as a social phenomenon and investigate the interaction between the participants of society. To understand the family budget mechanisms, it seems necessary to get to know the sociological interpretations of it (Eisinger-Balassa & Makkos-Káldi, 2012). Beyond the sociological and psychological importance of the keywords, we can't get by with economic understanding (Kahneman & Twersky, 1979). So far, there is no exact explanation for the complexity of the phenomenon; all of these disciplines may give the planned research framework. Some sophisticated ideas will be presented in the next paragraphs based on the highlighted keywords' already reviewed literature. According to Leite et al. (2014), nerve-racking experience and negative feelings, like frustration, anger, and loneliness, are responsible for developing compulsive behavior. These emotions increase depression, and compulsive buyers will be out of control.

Voth et al. (2014) state that the fundamental reason for developing compulsive buying is the need for unnecessary things. The symptoms appear in case of low interaction and poor relationships with others. Consciousness means access to information, states Pinker in his book (1997). Processing of information might be separated into two groups, the first is the pillar of the cognitive work and decision-making processes and the second group is the base for the autonomy inner processes, memories, and usage of languages (Pinker, 1997). This classification might draw a parallel between the concept of Kahneman, who distinguishes between two systems. Kahneman's book "Thinking Fast and Slow" (2011) presents the ideology of a way of thinking. Every day decisions are made fast, people do not have time to think and analyze every situation they are in daily. Kahneman (2011) claims that we use System 1 firstly, as an automatic, quick, intuitive basis of decision making. In contrast, System 2 is when our brain needs to process new information and learns. While we are learning something new, System 2 works, but once the new skill is acquired System 1 ensues. The phenomenon of "cognitive illusion" comes from this theory. It would be very overwhelming to override the decisions that are made by System 1, but it helps System 2 to promote decisions with implementing situations and characters into stories (Kahneman, 2011). Beyond the personal background, the high values lead to immediate gratification, responsible for chronic and distorted disease patterns in the long run. Compulsive buying patients have a higher risk for depression than non-clinical patients, and they have higher sensitivity for rewards. It improves the understanding of why it might be necessary to perceive their behavior from not a clinical point of view. Oniomania is another term for compulsive buying. It derives from the German expert Emil Kraepelin examining it at the beginning of the 20th century. Bleuler described compulsive buying as "reactive impulse" (Leite et al., 2014:411.), which cannot be controlled by the patients. There is a connection between our emotions, mental statements, and purchasing decisions. The fear of being an outcast might also be a reason for compulsive buying. The instruments that can measure compulsive buying showed that it would be possible to observe a parallel between academic performance, level of frustration, stress, and obsessive buying behavior (Gallagher et al., 2017). Since behavioral economics brought a new approach; thus, researchers broaden their scope of interest, they didn't leave out of consideration if we discuss the new dimensions of marketing tools. Palley's (2017) study shows that it was necessary to find new tools to influence purchasing behavior after the human factor's appearance in marketing studies. These new strategies are built on the observation of consumer behavior. Overspending is investigated from the behavioral economics' point of view. The survey of Carlson et al. (2014) explains the budget contraction effect mechanism, which means the interaction between the level of budget and the budget level allocation. The lower the funding, the less variety of choices will be allocated. People seek to gather more and more information about the product they wish to buy. This motivation shows a significant strong correlation with the purchasing decisions and observed buying behavior (Szymkowiak et al., 2020). Consumer innovativeness is responsible for adopting new ideas, services, and products. Beyond the relation of the keywords (overspending, compulsive buying, buying behavior, and family budget), it seems necessary to identify the used methodologies. The methods of behavioral economics are based on psychological processes: observations (Four-Week Purchasing Recall (Gallagher et al., 2017)), experiments (e.g., Five-Factor Model (Otero-Lopez & Villardefrancos Pol, 2013), Clinical Global Impressions-Improvement (Gallagher et al., 2017)), factor analysis, population-based surveys (e.g., the British Household Panel Survey (Brown & Taylor, 2014)), Compulsive Buying Scale (Gallagher et al., 2017), Yale-Brown Obsessive-Compulsive Scale (Leite et al., 2014), Richmond Compulsive Buying Scale (Lam et al., 2018)). These methodologies are used in the clinical environment and can be interpreted in terms of overspending. Buying behavior and compulsive buying have a strong correlation with each other; the observations of ordinary buying behavior serve the base for clinical experiments and therapy for compulsive buying.



If the identification was not unequivocal or we couldn't decide if it focused on the searched keyword, we conducted the abstract analysis to get exact results. As a final step, Scimago Journal & Country Rank (SJR) database was used to sort the journals after their H index and impact factor. The research targeted only Q1 and Q2 journals with the H index of 20<. To make a difference between the main focus of the published papers and experts' research topic, the articles are classified into two levels of society. Distinguishing between individual and social groups helps identify which top journals are published articles using the given keywords. The results are shown in *Table 1* and in *Table 2*. The ranking of journals in each box is determined from above to below by their impact factor. The journals are written with bold and prominent experts' names, who used the terms added after the journal they published in.

	<b>overspending</b>	<b>compulsive buying</b>	<b>buying behavior</b>	<b>family budget</b>
<b>individual level</b>	<b>Journal of Marketing</b> (Devezer et al., 2014) <b>Journal of Consumer Research</b> (Kivetz & Simonson, 2002) <b>Journal of Marketing Research</b> (Carlson et al. 2014; Lee et al.,2015) <b>International Journal of Research in Marketing</b> (Gijsbrechts et al.,2018) <b>Journal of Experimental Social Psychology</b> (Ainsworth et al., 2014) <b>Journal of Economic Behavior and Organization</b> (Hochman et al., 2014) <b>Psychology and Marketing</b> (Zemack-Rugar & Corus, 2018) <b>Journal of Behavioral Decision Making</b> (Liu & Chou, 2017)	<b>Journal of Consumer Research</b> (O'Guinn & Faber, 1989) <b>Journal of Consumer Psychology</b> (DeSarbo & Edwards, 1996) <b>Journal of Clinical Psychiatry</b> (Christenson et al. .1994) <b>Journal of Behavioral Addictions</b> (Faber & Christenson, 1996; Goslar et al., 2020; Nicolai & Moshagen, 2018) <b>Addictive Behaviors</b> (Maraz et al., 2016) <b>Personality and Individual Differences</b> (Otero-López & Villardefrancos Pol, 2013; 2015, Lucas & Koff, 2014) <b>Journal of Economic Psychology</b> (Wood,1998; (Donnelly et al., 2012) <b>International Journal of Consumer Studies</b> (Maccarrone-Eaglen, & Schofield, 2018; Norum, 2008) <b>Journal of Consumer Policy</b> (Valence et al.,1988)	<b>Journal of Consumer Psychology</b> (Kacen & Lee, 2008) <b>International Journal of Research in Marketing</b> (Bon & Pras, 1984) <b>Journal of Business Research</b> (Sheth et al., 1991) <b>Information Sciences</b> (Doniec et al, 2020.) <b>Psychology and Marketing</b> (Fazeli et al., 2020; Lu & Jen, 2016; Zhang & Mao.,2016; Collins et al., 2007) <b>Journal of Retailing and Consumer Services</b> (Furnham & Milner, 2013; Frisou & Yildiz, 2011; Goldsmith et al. 2011; Amos et al., 2014) <b>Food Quality and Preference</b> (Szymkowiak et al., 2020) <b>Management Decision</b> (Palalic et al.,2020.) <b>Corporate Social Responsibility &amp; Environmental Management</b> (Hayat et al., 2020) <b>Journal of Consumer Affairs</b> (Mohr et al., 2001) <b>Journal of Consumer Behavior</b> (Spiteri Cornish, 2020) <b>Young Consumers</b> (Maccarrone-Eaglen & Schofield, 2019)	<b>Journal of Public Economics</b> (Lewbel, 1989) <b>Economic Development and Cultural Change</b> (Suarez & Cameron, 2020) <b>Journal of Applied Econometrics</b> (Gustman & Steinmeier, 2004) <b>Journal of Economic Psychology</b> (Brown & Taylor, 2014)

*Table 1: The results of single keywords on the individual level*

social level	<b>Journal of Consumer Research</b> (Sussman & Alter, 2012) <b>Journal of Consumer Psychology</b> (Chancellor & Lyubomirsky, 2011) <b>International Journal of Research in Marketing</b> (Sridhar et al.,2017) <b>Journal of Urban Economics</b> (Sole-Olle & Viladecans-Marsal,2019) <b>International Journal of Project Management</b> (Bjorvatn et al.,2018) <b>Journal of Consumer Affairs</b> (Grinstein-Weiss at el.,2016; Fernbach et al., 2015) <b>Journal of Business Research</b> (Stenstrom et al., 2018) <b>Journal of Economic Psychology</b> ( Tatzel, 2002) <b>International Journal of Consumer Studies</b> (Erasmus & Lebani, 2008)	<b>American Journal of Psychiatry</b> (Koran et al., 2006, Black et al. 1998) <b>International Journal of Research in Marketing</b> (De Vries et al., 2018) <b>Journal of Behavioral Addictions</b> (Lam et al., 2018) <b>British Journal of Psychology</b> (Dittmar,2005) <b>Journal of Consumer Affairs</b> (Roberts & Jones,2001) <b>International Journal of Consumer Studies</b> (Maccarrone-Eaglen & Schofield,2018)	<b>International Journal of Production Economics</b> (Jin et al.,2020) <b>International Journal of Advertising</b> (Schoenberger & Kim, 2019) <b>International Journal of Consumer Studies</b> (Kumar et al., 2017; Liao et al., 2009) <b>Behaviour and Information Technology</b> (Brown et al. 2004) <b>Foods</b> (Melovic et al., 2020) <b>Journal of Consumer Behavior</b> (Romaniuk & Wight, 2015) <b>European Journal of Finance</b> (Duxbury et al., 2020.)	<b>Journal of Econometrics</b> (Hymans & Shapiro, 1976) <b>Journal of Economic Psychology</b> (Viaud & Roland-Lévy, 2000) <b>Journal of Economic and Social Measurement</b> (Jacobs & Shipp, 1993) <b>Health and social care in the community</b> (Fairbrother et al.,2012) <b>International Journal of Consumer Studies</b> (Bird et al.,2014.) <b>Journal of Social Welfare and Family Law</b> (Cookson,2013)
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*Table 2: The results of single keywords on the social level*

The next stage of the overview was to combine the keywords. It helped to clarify how the scope of literature can be extended. The combinations were the following: "overspending AND family budget" overspending AND compulsive buying" overspending AND buying behavior," "compulsive buying AND buying behavior," "buying behavior AND family budget." We used the same methodology as in the case of single keywords. The results are presented in *Table 3*, *Table 4* and in *Table 5*.

*Table following on the next page*

	overspending	compulsive buying	buying behavior	family budget
overspending		<b>Journal of Business Research</b> (Kukar-Kinney et al.,2016) <b>Journal of Behavioral Addictions</b> (Lo & Harvey, 2012) <b>Journal of Behavior Therapy and Experimental Psychiatry</b> (Kyrios et al., 2013) <b>Journal of Economic Psychology</b> (Gardarsdottir & Dittmar,2012,) <b>Journal of Consumer Affairs</b> (Roberts & Jones,2011, Lo & Harvey, 2011)	<b>International Journal of Research in Marketing</b> (Gijsbrechts et al.,2018) <b>Production and Operations Management</b> (Amornpetchkul et al.,2018) <b>Journal of Business Research</b> (Kukar-Kinney et al.,2016) <b>Journal of Business Research</b> (Shefrin & Nicols, 2014) <b>Journal of Behavioral Addictions</b> (Lo & Harvey,2012) <b>Journal of Economic Psychology</b> (Bossuyt et al., 2017; Donnelly et al.,2012) <b>International Journal Of Consumer Studies</b> (Erasmus & Lebani,2008)	<b>Journal of Consumer Affairs</b> (Roberts & Jones,2001)

Table 3: The results of keywords' combinations with overspending

	overspending	compulsive buying	buying behavior	family budget
compulsive buying			<b>Journal of Consumer Psychology</b> (DeSarbo & Edwards, 1996) <b>Journal of Business Research</b> (Mrad et al.,2020, Okazaki et al., 2019) <b>Journal of Retailing and Consumer Services</b> (Darrat et al., 2016) <b>European Journal of Marketing</b> (Horvath & van Birgelen,2015) <b>Psychology and Marketing</b> (Faber & Christenson, 1996) <b>Journal of Economic Psychology</b> (Horváth et al., 2015) <b>Journal of Consumer Marketing</b> ( Rotfeld, 2007) <b>International Journal of Consumer Studies</b> (Norum, 2008) <b>Young Consumers</b> (Maccarrone-Eaglen & Schofield, 2019) <b>Journal of Global Marketing</b> (Khare, 2013)	<b>Journal of Consumer Affairs</b> (Lo & Harvey, 2011) <b>Journal of Family and Economic Issues</b> (Gutter & Copur,2011) <b>Family and Consumer Sciences Research Journal</b> (Yurchisin &, Johnson, 2004)

Table 4: The results of keywords' combinations with compulsive buying



	overspending	compulsive buying	buying behavior	family budget
buying behavior				<b>European Economic Review</b> (Van Doorn, 1975) <b>Personality and Individual Differences</b> (Duh, 2016) <b>Social Science Research</b> (Daniels et al., 2015) <b>Cornell Hospitality Quarterly</b> (Adhikari & Rao, 2013)
family budget				

Table 5: The results of keywords' combinations with buying behavior and family budget

#### 4. FINDINGS

After summarizing the results, the top journals can be listed, which have a match in search of single keywords and combined keywords. After the title of journals, their shortcode is given, which will be used in the following. As a preparation phase for the next step, the number of selected articles were also listed. Forty-four items were identified for a more in-depth analysis (Table 6).

Journal	Database	Selected
International Journal of Research in Marketing (IJRM)	Web of Science	4
Journal of Business Research (JBR)	Web of Science/Science Direct	5
Journal of Economic Psychology (JEP)	Web of Science/Science Direct/Scopus	5
Journal of Consumer Affairs (JCA)	Web of Science/Science Direct	3
International Journal of Consumer Studies (IJCS)	Web of Science	5
Journal of Behavioral Addictions (JBA)	Web of Science / Scopus	4
Personality and Individual Differences (PID)	Science Direct	4
Young Consumers (YC)	Scopus	1
Psychology and Marketing (PM)	Scopus	6
Journal of Consumer Psychology (JCP)	Scopus	2
Journal of Retailing and Consumer Services (JRCS)	Scopus	5

Table 6: The top journals listed by database

The GAP-study (2015) of Müller-Bloch and Kranz served as a guideline in this paper to systemize the selected articles that are applicable to the terminological review. Table 7 shows the selected items that were found in the journals mentioned above. Authors, code of sources, titles of articles, and abstracts were imported into the software Nvivo. NVivo makes it possible to proceed with the content of the text by using keywords as a code.

Highlighting the parts of the sentences serves as an automatic version of taking notes. This step might help to find the possible locations of GAP in the literature. Using the coding process of the software NVivo, it seems to be clear which keywords were used the most frequently in the selected articles. This keywords' analysis represents that the most commonly used terms were *buying behavior* and *compulsive buying* in the selected literature. Their combination appeared more times than the other terminologies. *Overspending AND buying behavior* showed a strong correlation; the literature focused on their relationship in several articles. *Overspending AND compulsive buying* were identified mostly based on their causality; compulsive buying behavior occurs when overspending according to the psychological results.

Authors	Source	Titel
Sridhar, Naik, Kelkar, (2017)	IJRM	Metrics unreliability and marketing overspending.
Gijsbrechts, Campo, Vroegrijk, (2018)	IJRM	Save or (over-)spend? The impact of hard-discounter shopping on consumers' grocery outlay.
De Vries, Fennis, Bijmolt, Horst,Marsman (2018)	IJRM	Friends with benefits: Behavioral and fMRI studies on the effect of friendship reminders on self-control for compulsive and non-compulsive buyers
Bon, Pras (1984)	IJRM	Dissociation of the roles of buyer, payer, and consumer
Stenstrom, Saad, Hingston (2018)	JBR	Menstrual cycle effects on prosocial orientation, gift-giving, and charitable giving
Kukar-Kinney, , Close, Scheinbaum, Schaefers, (2016)	JBR	Compulsive buying in online daily deal settings: An investigation of motivations and contextual elements
Shefrin, Nicol (2014)	JBR	Credit card behavior, financial styles, and heuristics,
Mrad, Chi Cui, (2020)	JBR	Comorbidity of compulsive buying and brand addiction: An examination of two types of addictive consumption.
Okazaki, Schuberth, Tagashira, Andrade (2019)	JBR	Sneaking the dark side of brand engagement into Instagram: The dual theory of passion,
Brown, Taylor (2014)	JEP	Household finances and the 'Big Five' personality traits,
Viaud, Roland-Levy (2000)	JEP	A positional and representational analysis of consumption. Households when facing debt and credit.
Tatzel (2002)	JEP	"Money worlds" and well-being: An integration of money dispositions, materialism and price-related behavior
Bossuyt, Vermeir, Slabbinck, De Bock, Van Kenhove (2017)	JEP	The compelling urge to misbehave: Do impulse purchases instigate unethical consumer behavior?
Donnelly, Ravi, Howell (2012)	JEP	The Big Five personality traits, material values, and financial well-being of self-described money managers
Mohr, Webb, Harris, (2001)	JEP	Do consumers expect companies to be socially responsible? The impact of corporate social responsibility on buying behavior
Roberts, Jones,(2001)	JCA	Money attitudes, credit card use, and compulsive buying among American college students
Lo, Harvey (2011)	JCA	Shopping without pain: Compulsive buying and the effects of credit card availability in Europe and the Far East,
Norum (2008)	IJCS	The role of time preference and credit card usage in compulsive buying behaviour
Maccarrone-Eaglen, Schofield (2018)	IJCS	A cross-cultural and cross-gender analysis of compulsive buying behaviour's core dimensions
Kumar, Vohra, Dangi (2017)	IJCS	Consumer decision-making styles and post purchase behaviour of poor for Fast Moving Consumer Goods

Liao, Shen, Chu (2009)	IJCS	The effects of sales promotion strategy, product appeal and consumer traits on reminder impulse buying behaviour
Erasmus, Lebani, (2008)	IJCS	Store cards: Is it a matter of convenience or is the facility used to sustain lavish consumption?
Goslar, Leibetseder, Muench, Hofmann,Laireiter (2020)	IJCS	Treatments for internet addiction, sex addiction and compulsive buying: A meta-analysis
Nicolai, Moshagen (2018)	JBA	Pathological buying symptoms are associated with distortions in judging elapsed time
Lam, , Sze-Long Chan, Wing-Chi Wong, Ye. (2018)	JBA	Adaptation and validation of Richmond Compulsive Buying Scale in Chinese population
Lo, Harvey, (2012)	JBA	Effects of shopping addiction on consumer decision-making: Web-based studies in real time.
Otero-Lopez, Villardefrancos Pol (2013)	JBA	Compulsive buying and the Five Factor Model of personality: A facet analysis
Otero-Lopez, Villardefrancos Pol (2015)	PID	Compulsive buying and life aspirations: An analysis of intrinsic and extrinsic goals.
Lucas, Koff (2014)	PID	The role of impulsivity and of self-perceived attractiveness in impulse buying in women
Duh (2016)	PID	Childhood family experiences and young Generation Y money attitudes and materialism
Maccarrone-Eaglen, Schofield (2019)	PID	Compulsive buying among young adults : a behavioural segmentation'
Faber, Christenson (1996)	YC	In the mood to buy: Differences in the mood states experienced by compulsive buyers and other consumers
Zemack-rugar, Corus (2018)	PM	The effects of anticipated goal-inconsistent behavior on present goal choices
Fazeli, Shukla, Perks (2020)	PM	Digital buying behavior: The role of regulatory fit and self-construal in online luxury goods purchase intentions
Lu, Jen (2016)	PM	Effects of Product Option Framing and Temporal Distance on Consumer Choice: The Moderating Role of Process versus Outcome Mental Simulations
Zhang,& Mao (2016)	PM	From Online Motivations to Ad Clicks and to Behavioral Intentions: An Empirical Study of Consumer Response to Social Media Advertising
Collins, Steg, Koning (2007)	PM	Customers' values, beliefs on sustainable corporate performance, and buying behavior
DeSarbo, Edwards (1996)	PM	Typologies of Compulsive Buying Behavior: A Constrained Clusterwise Regression Approach
Kacen, Lee (2008)	JCP	The Influence of Culture on Consumer Impulsive Buying Behavior
Darrat, Darrat, Amyx (2016)	JCP	How impulse buying influences compulsive buying: The central role of consumer anxiety and escapism
Furnham, Milner (2013)	JRCS	The impact of mood on customer behavior: Staff mood and environmental factors
Frisou, Yildiz (2011)	JRCS	Consumer learning as a determinant of a multi-partner loyalty program's effectiveness: A behaviorist and long-term perspective
Goldsmith, Flynn, Clark (2011)	JRCS	Materialism and brand engagement as shopping motivations
Amos, Holnes, Keneson, (2014)	JRCS	A meta-analysis of consumer impulse buying

*Table 7: Selected articles*

## 5. CONCLUSIONS

Considering the selected articles and journals as initial points, it seems evident that the family budget is a de-emphasized topic in the papers. The existing research doesn't handle it from a behavioral economics perspective; the sources' most effective rate was published in political or

public-economical journals. “Further research is needed to better understand why some people develop the compulsive buying tendency but ultimately discontinue the behavior, and why others become radically addicted spenders (DeSarbo & Edwards, 1996:253).” Overspending is not discussed from a psychological point of view in the planned further research. The focus might be on the motivational factors that derive from family narratives. Taking into consideration that the study has several limitations at the moment, it calls for further analysis. As a next step, the topic's contextualization is planned within the frame of the different disciplines. Given the subject's transdisciplinary nature, various fields approach it differently, which occurs with the colorful methodological tools fitting to international requirements. The "three phases of validation" (Velencei et al., 2016) arises as a useful concept to visualize the research's future perspectives.



Figure 2: The three phases of validation  
(Source: Velencei et al., 2016.)

First, it is essential to validate the concept of internal research. The systematic literature review implements all of the accessible knowledge that might serve as a starting point of the study. The second stage is the relevance of data that might support the process of data evaluation. In this case, the systematic literature review and GAP analyses prepare the secondary data collection as a crucial part of the research design. At this point, it will be clear whether the data derives only from one discipline or it has transdisciplinary sources. However, the research problem is a complex phenomenon; the methodology might probably require a holistic approach. The crossover between the disciplines and their methods may be the base for validating the chosen methodologies' applicability in further research.

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# CURRICULAR ARTICULATION IN ENGLISH TEACHING BETWEEN THE 1ST AND 2ND BASIC EDUCATION CYCLES: PERCEPTIONS OF TEACHERS

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## **ABSTRACT**

*The educational sequentiality and students' success depend on the curricular articulation between cycles, as this reveals itself as relevant and facilitating in educational transitions. However, in practice, what the normative documents recommend are not applied. In this sense, the general objective of this study is to analyse the perceptions of English teachers in the 1st and 2nd Cycles of Basic Education (CEB) regarding the process of curricular articulation as a promoter of professional development. In this case study, the qualitative methodology was chosen, employing structured interviews. The WebQDA software was used for data processing and for its descriptive and interpretative analysis. It was concluded that the English teachers of the 1st and 2nd CEB, despite admitting little knowledge of the legal normative documents, demonstrated to practice articulation, as far as the accomplishment of common activities is concerned and listed constraints. Interviewees recognized the advantages and the need for curricular articulation in the transition to promote students' educational success.*

**Keywords:** *Articulation, Curriculum, English, Educational Success, Transition*

## **1. INTRODUCTION**

The Curricular Articulation (CA), concerning Education, is a relevant and current topic through to the voices of different actors, not always being in agreement, due to the social context, the observation and interpretation of the researcher facing the facts. In other words, “an investigation is neither neutral nor apolitical” (Vasconcelos, 2013, p.14), there being a political-social dimension, by the discovery of theoretical and/or practical fields that shape the object of study. In Education, the term Curricular Articulation is associated with curriculum development, and its relevance stands out “due to the sense of globality and sequentiality it carries” (Barbosa, 2010, p.11). In other words, CA is “an interconnection of knowledge from different fields, in order to facilitate the acquisition, by the student, of a global, integrating and integrated knowledge” (Morgado & Tomaz, 2009, p.63). In Portugal, authors of several studies refer it is in the transition years of the teaching cycles, mainly when associated with the change of teaching establishment, that the greatest problems of an emotional nature, are reflected at a behavioural level and on the educational success of students. In this sense, it is of great importance that teachers from different teaching cycles are aware that the educational and learning process is continuous and, therefore, it presupposes a sequenced and articulated educational practice, which requires each one to know and respect the previous and subsequent levels (Serra, 2004, Aniceto, 2010, Barros, 2010, Leite, 2012, Aragão, 2013, Oliveira-Formosinho, 2016). Thus, CA has been recognized as a very important practice, being frequently mobilized in terms of discourses aimed at changing and improving schools' success (Morgado & Tomás, 2010). Being the 1st CEB, the first binding stage of school life, it is necessary to establish a schooling unit that is sequentially articulated at a normative, organisational, curricular and pedagogical level (Alarcão, 2008), so that the school functions as

a whole, and being fundamental to a successful educational path, as stated in the legal documents. This study aims at knowing and evaluating the perceptions of the teachers of the English group, regarding the curricular articulation between the 1st and 2nd CEB, of a Group of schools, in Porto district. It is a case study, using sources and instruments of the qualitative methodology and a descriptive and interpretative approach in the analysis of the collected data.

## **2. CURRICULUM AND CURRICULAR DEVELOPMENT**

In the specific literature, no consensus was found concerning the definition of curriculum. For this reason, curriculum is a controversial, polysemic and, at times, an ambiguous and comprehensive concept. Thus, the curriculum is a pedagogical practice resulting from the interaction and confluence of diverse cultural, social, political, administrative, economic, school structures, among others, and on the basis of which concrete interests and shared responsibilities interact, the teacher is assigned the role of “Decision maker and manager of the curricular process” (Roldão, 1999, p. 38), emerging the student as an active and reflective agent of his learning. In this line of thought, the curriculum rises as the basis of a project that “must necessarily be appropriated by the school, by each school” (Serra, 2004, p. 32). It is through the Educational Project that each school assumes its curricular options, considering its context and through intentional planning. Based on this document, educators / teachers build their class project to respond to the specificity of their group / class and its dynamics. Curriculum development expresses a complex and active practice whose process takes place in four components: theoretical justification; elaboration and / or planning; operationalization and evaluation (Pacheco, 2006). Thus, curriculum development is a challenge to individual capacity, with the subject's involvement in its teaching and learning process being important. To summon previous knowledge, it is necessary that the acquired knowledge make sense in relation to the knowledge to be acquired (Roldão, 2003). The Ministry of Education, as a centralizing power, draws up curricula and curricular programs. In the 2017/18 academic year, Dispatch No. 5908/2017, July 5th, allowed, under a pedagogical experience regime, the implementation of the autonomy and curricular flexibility of basic and secondary education project in some schools. In the following year, the experience was expanded at a national level. The legal framework aims at giving schools and teachers more freedom to make curricular adaptations according to the context, consenting to change the order of contents and to make small changes while respecting the core contents and competences (Marques & Roldão, 1999).

### **2.1. Curricular articulation; Progressive sequentiality; Educational Continuity and Transition**

Literature review on Curricular Articulation (CA) shows that no clear definition is found on the topic. Researchers works carried out crisscrossed several concepts: curricular articulation, sequentiality and educational transition, which does not favor its conceptual delimitation (Ferreira, 2002, Serra, 2004, Rodrigues, 2005). Transposing the definitions found to school context, it is clear that CA is the response found “by teachers, to promote the transition between different cycles” (Serra, 2004, p. 75) that form the whole of the educational system. Progressive sequentiality is related to CA, so it is “a form of articulation between the different levels or stages of schooling so that each one of them is structured in order to the progress achieved in the previous level(s) is determinant, the subsequent level is determined” (Pires, Fernandes & Formosinho, 1989, p.24). It is important to emphasize that despite some contributions in the area (research and legislative documents) the sequentiality has relapsed, since each teaching cycle has been organized according to what it thinks is necessary for the next level and not taking the previous one into consideration (Pires, 1987 ; Ferreira, 2001; Abrantes, 2001; Roldão, 2008). This way, the objectives of basic education, which covers nine years, in a perspective of globality, unity, articulation and sequentiality are compromised, because it is

given more importance to schooling than to education (Ferreira, 2002). Educational continuity is related to the way in which knowledge is organized and sequenced, throughout the various levels of education, taking into account “the development of children and their learning capacities at each educational level” (Serra, 2004, p. 75). Therefore, the educational continuity between the 1st and the 2nd CEB does not bring any of the cycles to the forefront, but that the first is the “preparation for the next level”, on a perspective of “helical evolution”, where the next moment is necessarily grounded in the previous one so that it “gives meaning to education as a global and globalizing process, unifying and consolidating the individual's learning” (Pipa, 2011, p. 12-13). In summary, for the success of basic and compulsory education at school, it is important that teachers have a broad vision of teaching, promote curricular flexibility, differentiate and adapt the curriculum in search of meaning and significance for the path of Basic Education without forgetting the appreciation of the child skills acquisition, in various contexts, that prepare them for the next cycle (Abrantes, 2001, Roldão & Almeida, 2018).

### **3. TEACHING ENGLISH IN THE 1ST CYCLE OF BASIC EDUCATION**

To meet the Common European Framework of Reference for Languages (CEECRL) on the need for early teaching of other languages in the different member countries of the European Union (EU), the National Council of Education (CNE, 2014) in Portugal has integrated the teaching of English in the curriculum of the 1st CEB, because it is seen “as a means to better understand the other and to build their own identity (...) and because it is easier to learn at these ages” (idem, p.10). In this sense, the generalization of the early teaching of English began with the implementation of Order n° 12 591/2006, integrated in the Escola a Tempo Inteiro program, covering the 3rd and 4th years of the 1st CEB in curriculum enrichment activities and in the families support component in pre-school education. In 2008, its offer was extended to the entire 1st cycle, being mandatory, but with an optional frequency. In the academic years 2015/16 and 2016/17 the teaching of English became part of the curriculum, respectively for the 3rd year and the 4th year of the 1st CEB, contributing to the final evaluation of the students. Taking into account the compulsory teaching and learning of the English Language in the 1st CEB, it was imperative to determine the Curricular Goals for English (MCI) that aim to “establish the articulation between the Curricular Goals for English of the 1st cycle of basic education (...) and 2nd and 3rd cycles ”(Bravo, Cravo & Duarte, 2015, p. 2). Supporting documents were also created in the interest of the 1st Cycle, namely the Support Notebook for MCI. This Notebook presents a set of activities “grouped into five sections: Rhymes, Chants and Poems; Let’s sing; Story time; Let’s start speaking and Let’s start writing” (Bravo et al., 2015a, p.3), combining with the Profile of Students Leaving Compulsory Education (PASEO, 2017) and the Essential Learning for the 3rd and 4th years of schooling published in July 2018 (Decree-Law No. 55/2018, 6th of July). Consulting the English Curriculum Goals (MCI, 2015), the reference to sequentiality is verified throughout the three cycles of basic education, the first two being interesting for this study. Thus, by carefully reading the MCI, it is possible to see that the lexical and grammatical contents do not differ much. The vocabulary used in the 1st CEB is the one considered to be essential to develop the learning of the English language. In other words, the most important thing in this cycle is the development of communicative skills. The teaching work in horizontal and vertical articulation must be developed between the teachers of English of the 1st and 2nd CEB, respectively. In this sense, developing the teaching work in articulation, as foreseen in the normative documents, will imply carrying out a joint, interdisciplinary planning, providing an effective intracurricular communication, which, in the case of English, will lead it not to be limited only to its teaching time, but that extends and also relates to other curricular areas, such as Plastic Expression, Environmental Studies and Mathematics, for example, promoting more meaningful learning for students.

## 4. EMPIRICAL STUDY

As already mentioned, this study aims getting to know and evaluate the perception of the English teachers in the 1st and 2nd CEB, regarding the process of curricular articulation (CA) between them and as a promoter of their professional development. Configuring a case study by observing a specific phenomenon within its real context (Yin, 2009), interviews of the 8 participating teachers with various functions were analyzed, so that different voices could be heard. This polyphony makes it possible to find answers to the questions formulated in the investigation (Creswell, 2007). Data analysis focuses on “your organization, division into manipulable units, synthesis, looking for patterns, discovering important aspects and what should be learned and deciding what will be passed on to others” (Bogdan & Biklen, 2018, p. 205). In this sense, the qualitative methodology in the collection and data analysis data was privileged. Then, the categorical analysis was applied “in order to enable a reasoned interpretation of the results obtained, which would answer to the starting question of this investigation” (Alves, 2017, pp.201-202, cit. por Alves, Coimbra & Martins, 2019, p. 784). For the analysis of the content of the perceptions, the online application webQDA was used, a qualitative data analysis software that assists researchers in different necessary tasks such as transcription, writing, annotation and text interpretation (System of Sources: Internal, External and Notes), coding (Free Codes, Tree Codes, Descriptors and Classification) and various types of functions such as content analysis, speech analysis and data mapping (Reis, Costa & Souza, 2016). It should be noted that this process started with a fluctuating reading of the interviews, for an initial appropriation of the content (Bauer & Gaskell, 2008) and, after several steps, the text was broken down into categories and subcategories by forming semantic groups (Flick, 2011; Stake, 2016).

### 4.1. Results analysis

#### 4.1.1. Teachers' perceptions of curriculum articulation

The voices of the interviewees about the curricular articulation are shown in Table 1, which is presented below. As it can be seen, the “Curricular Articulation” category is divided into 2 Subcategories: concept and importance. The information was taken from the textual corpus, after analyzing the discursive content (Bardin, 2011; Edwards & Holland, 2013).

First category	Subcategory	Teachers interviewed							
		Director	C1	C2	C3	P1	P2	P3	P4
Curricular Articulation (CA)	Concept	1	3	2	6	3	5	2	3
	Importance	7	2	5	3	4	3	3	4

Table 1: Teachers perceptions about curricular articulation (own source)

When analyzing Table 1, it is observed that interviewee C3 has more references in the subcategory the concept of CA (6 Ref.), Followed by P2 with 5 references, with an equal number of references (3 Ref.) C3, P1 and P4. Two interviewees, C2 and P3, collect 2 references each and the Director was the one who gathered the least amount of references (1 Ref.). Regarding the concept of CA, interviewee C3 addresses it, in several references, understanding that: “Articulation is working on the same themes, gaining experiences” (Ref.2); “That is why it is to work together, in partnership, sharing ideas” (Ref.1); “it is to make learning meaningful and spiral of content for teachers” Ref.5); “Is to give meaning to the construction of learning, from the perspective of the Student Profile” (Ref.6). In the same sense, P2 states that “I think that the curricular articulation is to articulate content in a smooth and playful way” (Ref. 1), to “develop a collaborative work in view of the Profile of the students” (Ref.4) .

In turn, P1 understands that “it is to perform collaborative work between teachers of various cycles” (Ref.1) and P4 states that “it is the articulation of contents and strategies that strict collaboration between all teachers, articulating contents and strategies at the same time. throughout the different cycles among all teachers ”(Ref.1). The Director made a broader and more complete reference, according to specialized literature (cf. 2). Thus, mentioned that: “Curricular articulation is the strict collaboration between all teachers, articulating content and strategies throughout the different cycles. It is to perform collaborative work for a better student learning and sequential learning, it is to know the work of others and make mine known. In other words, the curricular articulation aims to share knowledge, ideas to develop learning in view of the student's Profile (Ref.1). In this context, the interviewees also refer that the articulation presupposes collaborative work between teachers from different cycles, both in the planning of activities and in the content. An example of this are the following opinions: “That is why articulation is about working together, in partnership, sharing ideas” (C3, Ref.1); “The articulation of contents and strategies is the strict collaboration between all teachers, articulating contents and strategies throughout the different cycles” (P4, Ref.1); “The curricular articulation is the realization of common activities that contribute to the development of the language, taking into account the different teaching cycles” (P1, Ref.1). These perceptions are in line with studies that show the importance of collaborative work between different levels of education as a facilitator of children's adaptation to a different level of education and teachers' awareness of its importance (Serra, 2004, Aniceto, 2010, Silva, 2013, Mesquita, 2014, Oliveira-Formosinho, Monge & Oliveira-Formosinho, 2016). In other words, the analyzed set converges in the statement that teachers, as a rule, indicate more the strategies they have found for their realization than a concept that is delimited from a theoretical point of view (Serra, 2004). Regarding the second subcategory, Importance of CA, it appears that the Director has 7 references, followed by C2 with 5 references, P1 and P4 with 4 references each, C3, P2 and P3, with 3 references each and, finally, C1 with 2 references. From the Director's various references, the following is transcribed: “the fact that it allows teachers to learn about the other cycles, also allowing collaboration and better knowledge among all” (Ref.3-1.68%); “Teachers get to know the dynamics of the 1st cycle better, encouraging collaborative work and sharing experiences” (Ref.5-1.68%); “Transmits sequentiality to the teaching / learning process and promotes collaborative work” (Ref.2-1, 24%). It is inferred that the Director, for working in a top management position of the group of Schools, has a more in-depth knowledge about the importance of CA, hence having a speech with a greater number of references. It can also be seen that coordinators and teachers are aware of the importance of CA, as can be read in the following words: “I think it will be very important between the 1st and 2nd cycles because there is more distance, helping teachers to get to know each other better and collaborate more ”(C2, Ref.5); “(...) It is fundamental for the smooth transition between cycles and gives a sequence to what the students are learning” (P4, Ref. 4); “The curricular articulation is very important, as it can facilitate the integration of students in the new cycle” (...) “providing better knowledge of the next cycle even during the previous cycle” (P1, Ref.3 and 4). These principles agree with the idea that activities promoted in schools must be important and assume the purpose of facilitating the transition between cycles, since the promotion of educational success is based on the organization of knowledge, across the various educational levels (Serra , 2004). In addition, there is a concern with the development of children and their learning capacities at each level and school sequentiality and flexibility (Cosme & Trindade, 2017). From the above, it is possible to infer that, CA is considered, in general, as a factor of great importance in the teaching / learning process since it “allows greater” comfort "for the student at the moment of transition" (P2, Ref. 3 ), for engaging collaborative work between teachers from different cycles, a better relationship between all, contributing for professional development, taking into account that it makes it possible to “know the work of others and make mine known” (Director,

Ref.1), enabling the transition process between cycles and the sequentiality of learning, taking into account that “it enhances the development of the objectives of the Grouping Educational Project, promoting sequentiality, giving a perspective of continuity of learning” (C3, Ref. 1). In the interviewees' speeches, the importance of CA for the development of collaborative work among teachers is obvious in order to facilitate the educational transition and help in the professional development of all (Early Years, 2014; Peters, 2010; Petriwskyj et al., 2005, cit by Oliveira-Formosinho et al., 2016), stating that the success of the transition between levels of education is found not only in the child, in his ability to “be ready”, but also “(...) depends on the contexts and reception processes ”(Vasconcelos, cit by Oliveira-Formosinho et al., 2016, p. 8), which includes family, school and the community. From the above, it can be concluded that, despite the various functions of the interviewees, there is a unanimous perception about CA. In other words, it consists of a set of procedures that contribute to the resolution of common problems, the promotion of joint activities engaging teachers and students and facilitating the transition process between the 1st and 2nd CEB, allowing to find bonds between cycles. This high level of agreement was also verified in the study by Aniceto (2010) and is in line with the concept of CA defined by Serra (2004), in which it is in every way characterized by points of union between cycles, through different strategies and contextualized and adapted mechanisms, which promote a progressive transition of students to a new cycle and reducing individualization in the teaching culture (Fialho & Sarroeira, 2012). Thus, it is reinforced that teachers of each level of education must establish a reasoned and articulated praxis of their work, where continuity and sequentiality of education are foreseen, despite the specificity of each level of education. Sharing “contributes to a common thread in learning” (P4, Ref. 2), since the confrontation of different ideas allows creativity to be reborn. The convergence of these vectors allows the group to evolve in terms of dynamics and learning (Fullan & Hargreaves, 2001). In fact, for the transition between the different educational levels to take place in a natural way and contribute to a good adaptation of students to the new reality, it is essential that, as advocated by Oliveira-Formosinho et al., (2016), it is created a quality environment in the interactions between the various actors and in educational transitions that lead to the creation, in the student, of a fundamental positive self-image at the moment of transition.

#### 4.1.2. Interview analysis by word triangulation

When using WebQDA's features for word triangulation, in the Questioning system, in the “Text Search” subsystem, the terms underlying the CA were searched for the analysis of occurrences by each interviewee.

	Terms search								Total oc
	P1	P2	P3	P4	C1	C2	C3	Director	
Collaborative work	1	3	1	0	0	5	1	4	15
Sequentiality	3	1	1	4	1	1	2	2	15
Transition	4	5	1	3	2	4	6	1	26
Activities & English	21	13	11	13	11	14	15	5	103

Table 2: Terms search on interviews (Own source)

Looking at Table 2, created from the collection of data from the WebQDA text search, it appears that the highest number of occurrences (oc.) appear in the words “Activities and English” (103 oc.); followed by the word “transcript” (26 oc.); and with the same number of occurrences (15 oc.) the terms "sequentiality" and "collaborative work". The most found words "activities" and "English", are not surprising considering that the content of the interview related to this study



was the English discipline. However, the remaining words lead to the conclusion that the concept of CA is current in the speeches of the interviewed teachers (including the principal who is also a teacher). Data analysis leads to the conclusion that the teachers of this School Group have not yet understood the true meaning of Curricular Articulation. For the interviewees, the AC is, above all, the transition in level or teaching cycle and the sequentiality between cycles. Therefore, it appears that, probably, they fell pleased just by analyzing both cycles teaching plans and checking common contents. I am pleased to refer to the Curricular Autonomy and Flexibility Project (AFC, 2017), which emerged in an attempt to create conditions for schools to manage the national curriculum, taking into account the context of students and the opportunity to make content management flexible, either from one level of education to another, or within the same level of education, using more appropriate methods, according to individual characteristics, so that all students are given the opportunity to learn. In this sense, the flexible management of the curriculum allows the school to leave its usual routine and to hear more and more about group work, classes planned together, more frequent meetings between the members of the class council, significant changes in the dynamics of schools. It is important that teachers change their attitudes, leave their classrooms, and stop considering their discipline as sovereign (Roldão, 2003, cit. By Santos, 2012, p. 53). Teachers must join forces and make the set of disciplines as a whole, with cohesion, improving Essential Learning (AE, 2018) preparing students to become a citizen ready to know how to act in any circumstance of life (Santos, 2012).

## 5. CONCLUSION

Considering the objective of the study, the following conclusive synthesis is carried out. Thus, with regard to the category of CA, it was observed that the participating subjects, despite their different roles at school, consider that CA enable the development of collaborative work between peers, in the horizontal and vertical sense, intra and inter teaching cycles. They also believe that CA promotes sequentiality, the educational success of students and facilitates the transition process between cycles, as recommended by PASEO (2017), and Essential Learning (AE, 2018), as well as by authors referenced in the literature review (Aniceto, 2010; Serra, 2004). It is concluded that the majority of the participants consider the articulation between the two levels of education to be important, showing that, both teachers and management members, seem to be properly aware of its importance, answering, thus, to one of the specific objectives “to identify the conceptions of English teachers in the 1st and 2nd cycles on the curricular articulation between cycles”. During the study, by collecting, processing and analysing data, the researcher noticed a certain change taking place in the Language Department, with a focus on English. Not only the 1st CEB teachers managed to contemplate the sequentiality with the contiguous cycles, but also the 2nd ECB teachers were doing it too. It is important to highlight that, until recently, there was only concern with the transition of students to the subsequent cycle, and now they are beginning to glimpse the previous cycle and to be concerned with understanding methods, strategies and curricular programs of the 1st. CEB. As a final summary, in the context under study and based on the purposes of this research, although it is not possible to assess its impact on the effective promotion of Curriculum Articulation practices, it is believed that the various phases of the research carried out, namely the conduct of the interviews, triggered in the subjects interviewed, processes of analysis and reflection on their practices, was a contribution to their professional development. The idea that it is essential that professionals from both levels of education engage and dialogue, promoting joint reflection, minimizing the negative effects that the transition may have on children's development and learning, defended throughout the literature (Aniceto, 2010; Barbosa, 2010; Carvalho, 2010), comes out, thus reinforced. In addition, this dialogue can facilitate the implementation of common activities.

It will undoubtedly be easier if teacher's concerns involve knowing the previous and subsequent levels. The results of this study are a potential contribution to the understanding of the importance of Curricular Articulation, as they allow participatory reflection around the problem by all the stakeholders, with a view, in the future, to the development of more effective articulation processes, in the context in which the study took place.

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## SCHOOL MEDIATION OFFICES: PORTUGUESE EXPERIENCE

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### **ABSTRACT**

*The problems of coexistence in the school environment influence interactions inside and outside the classroom, generating harmful social climates for the teaching and learning and socialization processes. The need to provide an educational response to this problem led several schools to adopt Conflict Mediation Offices (CMOs). These pacification structures have contributed to obtain positive results in conflict management and in improving the school social climate. The present investigation assumed the purpose of mapping and characterizing the CMOs of the second largest city in Portugal, Porto. As specific objectives, the aim was to know the needs and factors that contributed to the existence of CMOs at school; to perceive how CMOs are structured; analyse the dynamics of CMOs in the socio-educational context, focusing on the results and on the impact achieved; understand the integration of CMOs into the organic-educational structure of schools. Of the 15 Schools Clusters (SC) in the city (comprising a total of 73 schools, of which 69 are primary schools and 4 are secondary schools), 6 confirmed having CMO, although only 5 collaborated in the study (comprising a total of 22 schools, of which 21 are primary schools and 1 is a secondary school). Methodologically, it is a qualitative study, using questionnaires for data collection, whose data were subjected to techniques of descriptive statistical analysis and analysis of content. It was concluded that the CMOs, not being identical among the SC, are considered an indispensable socio-educational structure for managing conflict situations and, despite facing organizational difficulties, they have the support of the school Management as they are a structure that performs good practices and obtain relevant results in social and educational terms.*

**Keywords:** *Conflict Mediation Office, Good Practices, School Mediation*

### **1. INTRODUCTION – MEDIATION AND SCHOOL MEDIATION OFFICES**

The development of social and relational skills that promote a positive coexistence is a basic educational objective of the XXI century. Today, in this global village where we live, schools are faced with the need to educate for a culture of peace, citizenship and healthy coexistence. In this context, conflict mediation creates opportunities to foster skills to improve the coexistence of members of the educational community, both within and outside the school space, and to understand the relevance of conflict in interactions and social development. More than a conflict resolution procedure, mediation can mean a transformation engine of a given context, since mediation contributes to improve the quality of human relations. In its basic foundations, mediation encourages the practice of empowerment, through a process of (re)ordering and qualifying oneself and others in their social context; fostering dialogical interaction; encouraging empathy and mutual respect and building mutually satisfactory solutions. School mediation has been attributed results and successes that attest to the improvement of individuals and even the school. Jones, 1994, Johnson and Johnson, 1995, Cohen, 1995, Bodine and Crawford, 1998, Alzate 1998, Kmitta, 1999, Souquet 1999 refer to five positive effects of conflict management or mediation programs: 1- effective conflict management, 2- effective conflict resolution, 3- better school climate, 4- acquisition of skills

for active life, 5- inclusion. Souquet, 1999, Torremorell, 2002, Jares, 2002, Bonafe-Schmitt, 2000, 2014, Torrego, 2006, Faget, 2010, Silva, 2011, Costa, Torrego and Martins, 2016, Lubelska, 2018, Pinto da Costa, 2019 agree that school mediation projects propose educational responses to interpersonal conflicts, prevent and reduce conflict, and provide more educational quality and school success. As in other countries, several schools in Portugal have adopted Conflict Mediation Offices (CMOs) which, according to some literature (Amado & Vieira, 2016, Costa, Torrego & Martins, 2016, Cunha & Monteiro, 2018, Pinto da Costa, 2019), allow a more humanized, positive and reparative approach to conflicts and interpersonal relations. In agreement with Jares (2006, p. 97), "the incorporation of mediation teams in schools is born from the concern to provide an educational response to problems of coexistence, discipline and violence in schools" and these structures are responsible for the "development of good practices of coexistence". CMOs are a framework for peacekeeping in complex interpersonal dynamics, in terms of peacekeeping, peacemaking and peacebuilding (Torremorell, 2008). In general terms, CMOs are considered as socio-educational structures where a dialogic, collaborative and responsible methodology is operated in order to understand and act in conflicts among students or between them and other members of the educational community. The CMOs do not respond to all problematic situations within the educational space. As Sousa (2014, p. 65) states, "conflict mediation is a possible way, it does not serve for all conflicts, but it serves for everyone". As mentioned by Torrego (2006), the creation of conflict mediation offices has allowed schools to innovate the model of conflict management, in an integrated logic that combines the impositive and punitive model with the dialogical and relational model. From this perspective, we sought to learn more about the organic-functional reality, the results and the impact of these socio-educational structures.

## 2. METHODOLOGY

The qualitative research, which has been carried out for this study, is suitable for understanding the subject in question. Qualitative research assumes an interpretative and inductive dimension.

### 2.1. Objectives

The present study assumed as general objective mapping and characterizing the CMOs of the second largest city in Portugal, Porto. As specific objectives, the aim was:

- 1) to know the needs and factors that contributed to the existence of CMOs at school;
- 2) to perceive how CMOs are structured;
- 3) analyse the dynamics of CMOs in the socio-educational context, focusing on the results and on the impact achieved; understand the integration of CMOs into the organic-educational structure of schools.

### 2.2. Context and participants

The study was conducted in the municipality of Porto, located north of Portugal. Through the official platform of the General Directorate of School Establishments, fifteen (n=15) School Clusters (SC) were identified, comprising 69 basic schools and 4 secondary schools. Of the fifteen (n=15) SC (coded from SC1 to SC15), only fourteen (n=14) answered a first questionnaire. It was confirmed that six (n=6) SC had Conflict Mediation Offices in the school year 2018/2019 (SC6, SC9, SC11, SC12, SC14 and SC15). However, only five (n=5) SC participated in the survey, since SC6 eventually chose not to answer the second questionnaire. Note that the school board of SC1 answered that: *"We do not have a Conflict Mediation Office in the School Group. We are planning to open a Mediation Office in 2019/20"*.

## 2.3. Method and procedure

The questionnaire survey proved to be an appropriate means of allowing participants greater flexibility in time to give their answers. In fact, there were numerous difficulties of direct contact with the directors of the SC. After the authorization of the General Directorate of Education, two questionnaires were applied. The first questionnaire, entitled "Mapping of Conflict Mediation Offices in the Municipality of Porto" had the objective of allowing the identification of SC with CMOs. The second questionnaire, entitled "Characterization of Conflict Mediation Offices in the Municipality of Porto", aimed to collect more detailed information on CMOs. To facilitate the data collection procedure, the two questionnaires were conducted using the Google Forms tool. The construction of the questionnaires aimed at obtaining exploratory information. Through the analysis of data (numerical and textual) we tried to identify ideas, procedures and actions. It was a process of arranging information, in which the categories provided an order of interpretation and the techniques of descriptive statistical analysis and content analysis gave meaning to the data collected. Thus, the process of data analysis was carried out in an interpretative and comprehensive way, in order to contribute to the explanation of a given social phenomenon and, consequently, to the construction of knowledge.

## 3. ANALYSIS OF RESULTS

### 3.1. Mapping

#### 3.1.1. Time of existing and continuing

It was possible to verify that the first experiences of CMOs in the city of Porto date back to a decade ago. Among the six (n=6) SC under study, the CMOs of SC12 and SC14 were created in 2009, while the remaining SC constituted them more recently, between an average of six (2014) and one year (2018). In 2000 the first peer mediation project was implemented in Portugal in the city of Alcobaca (Ferreira, 2002). It was found that the identified offices have been in operation since its creation and there have been no cases of closure. Thus, the schools and their CMOs have demonstrated that they have overcome barriers, which Pinto da Costa (2019) calls "structural blockages".

#### 3.1.2. Reasons for creation and existing

All SC (n=6) indicated that CMOs were created "due to inadequate student behavior". As this was a multiple option question, SC11 and SC14 (n=2) also answered that the offices exist "because they have contributed to improving the social climate of the school". SC6, SC9, SC11 and SC12 (n=4) included in the reasons for the creation and existence of the CMOs the fact that "teachers bet on this type of intervention and promotion of coexistence and conflict management". SC9, SC12 and SC15 (n=3) also answered that "the mediation team develops other activities besides solving conflicts in the office". Torrego (2006) states that the methodology of conflict mediation brings innovation to the school, as it involves measures that complement the existing disciplinary system to respond to dysfunctional situations, such as indiscipline and violence. The aim is to adopt a measure with an educational nature, which in addition to solving present situations, also acts in the prevention of future rupture situations.

#### 3.1.3. Who had the initiative?

In the majority (n=5) of the SC (SC6, SC9, SC11, SC14 and SC15) were the directors who took the initiative to create the CMOs, followed by one (n=1) SC (SC12) who replied that the initiative came from the student support office. Pinto da Costa (2019) also emphasizes the importance of the school administration in this area, noting in her study that the entire process of integration, operation and maintenance of the CMO is only possible thanks to the institutional support obtained over the years.

### 3.1.4. Composition

In all SC (n=6) teachers integrate the composition of the CMO. SC6, SC9, SC11, SC14 and SC15 (n=5) indicated that psychologists are also part of the mediation teams. SC6, SC14 and SC15 (n=3) added social workers and SC14 and SC15 (n=2) social animators. Only SC12 (n=1) indicated the presence of a mediator, while SC15 (n=1) indicated the students as members of the mediation team. Now, in accordance with the literature review (Gaspar, 2007, Tomás, 2010, Costa, Torrego & Martins, 2016, Cunha & Monteiro, 2018), the composition of CMOs and mediation teams may differ from school to school.

## 3.2. Characterization

### 3.2.1. Necessities

On a scale of 1 to 5 (1 being not relevant and 5 very relevant), indiscipline emerged as a very relevant need (level 5) for all respondents (n=5, 100%). Violence, on the other hand, presented varying rates of relevance: SC11 and SC12 (n=2) considered this need to be very relevant (level 5), SC9 and SC14 (n=2) reported it to be an average need (level 3) and SC15 (n=1) marked it as being relevant (level 4). Regarding conflicts, the data pointed to a variation between levels 3 and 5. SC11 (n=1) pointed to this need as very relevant (level 5); SC9, SC12 and SC14 (n=3) considered it relevant (level 4) and SC15 (n=1) pointed it out as relatively relevant (level 3). It was also sought to know the need to improve the relational climate at school. SC9, SC11 and SC12 (n=3) considered this need of maximum relevance (level 5), followed by SC14 (n=1) as relevant (level 4) and also SC15 (n=1) which considered it of little relevance (level 2). In the open question "others", SC9 (n=1) classified the need to "promote a culture of peace" as relevant (level 4). From the literature review (Torrego 2000, Álvarez; Álvarez & Nunez, 2007, Cunha & Monteiro, 2018) it was understood that the needs that justify this type of socio-educational intervention can vary from school reality to school reality. Therefore, the first phase of the implementation of a mediation project should consist in the diagnosis of the school's needs and problems as a reality to be improved.

### 3.2.2. Favorable aspects

"The need to adopt new ways of intervening with students" was the response option given by all respondents (SC9, SC11, SC12, SC14 and SC15). "The support of the school direction" was the second option selected by SC9, SC12, SC14 and SC15 (n=4). The option for teachers to have mediation training was marked by two SC (SC9 and SC15, n=2) and "the existence of a mediator at school" was another option also marked by SC11 and SC12 (n=2). The option "integration in socio-educational projects offered to the school" was selected only by SC15 (n=1). Thus, among the various factors that contributed to the creation of a CMO, the necessity (n=5) stands out, followed by institutional support (n=4), the interest of teachers (n=2) and the existence of specialized human resources at the school (n=2). Among the factors that supported CMO continuity: "the mediation team" was indicated by SC9, SC11, SC12 and SC15 (n=4) as a very relevant factor (level 5) and for SC14 (n=1) as relevant (level 4). Another factor refers to "school management support", considered as very relevant (level 5) by SC15, SC14 and SC11 (n=3) and as relevant (level 4) by SC9 and SC12 (n=2). The "acceptance by students" was considered by SC15, SC12 and SC11 (n=3) as very relevant (level 5) and for SC9 (n=1) as relevant (level 4). The "existence of a mediator at school" was evaluated by SC11 and SC12 (n=2) as very relevant (level 5) and by SC9 and SC14 (n=2) as relevant (level 4). As for "motivated teachers", SC9, SC11, SC12 and SC15 (n=4) considered this factor relatively relevant (level 3), while SC14 (n=1) considered it not very relevant (level 2). In this field of the other options, "the importance of the work done" was considered by SC11 (n=1) as very relevant (level 5) and by SC9 (n=1) as relevant (level 4). In summary, the factors that allowed the continuity of the CMOs are diverse, but the strategic factors fall on the mediation team that

serves as an engine for the dynamics of mediation in the school and the institutional support of the school management. These two factors were also highlighted in the studies of Ortega and Rey (2002), Costa, Torrego and Martins (2016) and Pinto da Costa (2019).

### 3.2.3. Difficulties

The difficulties *"lack of time to build a team for the office"* and *"the difficulty of acceptance by teachers"* were identified by one respondent, respectively: SC15 (n=1) marked the first difficulty and SC14 (n=1) marked the second difficulty. In turn, the option most highlighted by SC referred to the *"difficulty in articulating the various services at school"* (SC9, SC14 and SC15) (n=3). Next, two SC (SC11 and SC14) (n=2) pointed out as difficulty the *"lack of knowledge about how the office works"*. As for the open question *"other situation"*, SC9 (n=1) included the *"difficulty in articulating timetables"* and SC12 (n=1) noted the *"lack of time of the team members to carry out the work in the desired way"*. In summary, the organizational issues among the constraints to the functioning of the CMOs are highlighted, in accordance with the longitudinal case study of Pinto da Costa (2019).

### 3.2.4. Changes

While SC9 and SC11 (n=2) answered that no changes occurred after the creation of the CMO, SC12, SC14 and SC15 (n=3) pointed out that changes were made. Specifically: SC12 (n=1) referred to the *"introduction of new elements and strategies"*; SC14 (n=1) pointed to the inclusion of *"teachers"* and SC15 (n=1) indicated that *"there are always changes in the members of the team that work at the beginning of the school year"*. In summary, the changes were mainly in the composition of the CMO. Pinto da Costa (2019) pointed out that alternation as well as the existence of a strong nucleus in the CMO team constitutes an advantage for the dynamics of mediation in the school. That is, the alternation of elements in a planned way enables more actors to participate and develop mediation skills; whereas the existence of a hard core favours the CMO in the continuity of the mediation dynamics and in the dissemination of the mediation culture at school.

### 3.2.5. Organic integration

SC9, SC11 and SC14 (n=3) indicated that the CMO is an autonomous organ in the school's organization and has its own team. SC12 (n=1) answered that the CMO is integrated in the Student and Family Support Office, not having its own space, but with its own team. SC15 (n=1) said that the office *"is integrated in the learning support center"*, not having its own space or team. This organic diversity (autonomous structure and integrated structure in other socio-educational structures) is also mentioned in several studies, Torrego and Galán (2008), Ibarrola-García and Iriarte (2012), Costa, Torrego and Martins (2016), Amado and Vieira, 2016.

### 3.2.6. Composition and coordination

The five respondents (n=5) (SC9, SC11, SC12, SC14 and SC15) identified teachers and psychologists in the mediation team. However, it should be noted that two SC (SC11 and SC12) also identified the figure of the mediator; SC14 (n=1) identified the social worker and the socio-cultural animator, and also SC9 included students in the mediation team. In summary, it was found that the CMO teams were predominantly composed of teachers and psychologists and included social workers such as mediators. This diversity in the composition of the mediation team varies according to the type of school mediation project adopted, be it a peer mediation project or a wide-ranging project or a combination of both (Costa, Torrego & Martins, 2016, Monteiro & Cunha, 2018, Pinto da Costa, 2019). Regarding CMO coordination, SC9 and SC14 (n=2) pointed out the teachers and SC15 and SC11 (n=2) pointed out the psychologists. SC12 pointed out in the *"others"* option that *"there is no specific coordination"*.



It was found, in turn, that the mediators of SC11 and SC12 do not assume this role. SC11 and SC15 (n=2) pointed out that the coordinators had a background in Psychology. SC9 indicated that the coordinator had a "*degree in Biology/Geology (via teaching)*". The coordinator of the SC14 team had a degree in Education. In turn, the five SC (n=5) (SC9, SC11, SC12, SC14 and SC15) answered that the coordinators of the mediation team had training in conflict mediation. Specifically, SC9, SC11, SC14 and SC15 (n=4) answered that the coordinators had continuous teacher training in that specific area. SC12 (n=1) replied that the CMO coordinator had a postgraduate course in conflict mediation in a school context. Pinto da Costa (2019) advocates that all elements of a CMO should receive mediation training to acquire the necessary skills to perform the function.

### 3.2.7. *Target audience and participants*

All SC (n=5) (SC9, SC11, SC12, SC14 and SC15) responded accordingly that the target audience of CMOs are the students. Since this was a multiple-choice question, SC9, SC11 and SC12 (n=3) also marked the teachers. SC9 and SC12 (n=2) also pointed out the operational assistants. In turn, SC11, SC12 and SC15 (n=3) also pointed out families. In summary, the CMOs are available to the entire educational and school community, presenting themselves as structures open to all those who may need their support in managing interpersonal relationships. About who actually uses the CMO, the five SC (n=5) (SC9, SC11, SC12, SC14 and SC15) answered the students, especially from the 2<sup>nd</sup> and 3<sup>rd</sup> cycles. Since this is a multiple-choice question, the SC also marked other options: SC11 and SC15 (n=2) indicated the students of the 1<sup>st</sup> cycle. SC11 and SC12 (n=2) also indicated the students in professional education. SC9, SC11, SC12 and SC14 (n=4) also indicated the teachers. The parents and operational assistants were marked by SC9 and SC12 (n=2). SC15 (n=1) was the only one to mark secondary school students. In short, there is a correspondence between the opening of the CMOs to the school community and those who make use of these structures. It was found, however, that among the majority of the SC participating in the study, the students are the ones who seek the CMO the most. The teachers were also pointed out by four of the five SC, representing a positive acceptance and adherence of them to mediation as a methodology for constructive conflict resolution.

### 3.2.8. *Activities*

Among the activities of the CMO, we find that most of the SC (n=4) organize the realization of conflict mediation training actions. When asked about the addressees of this training, SC9, SC12 and SC15 (n=3) pointed out the teachers. However, since it was a question of multiple choice, SC9, SC14 and SC15 (n=3) also identified the operational assistants; SC9 pointed out students and parents. In summary, it was noted that these SC are concerned with providing conflict mediation training as a way to equip school community actors, especially teachers, with tools to better manage interpersonal relationships and conflicts. Regarding other activities developed by the mediation team, the five SC (n=5) (SC9, SC11, SC12, SC14 and SC15) marked the "mediation in the office". Then, four SC (n=4) (SC11, SC12, SC14 and SC15) indicated that the mediation team also performed mediation in the classroom. Four other SC (n=4) (SC9, SC11, SC12, and SC14) indicated "mediation in other school spaces. Next, SC9 and SC15 (n=2) also reported "extracurricular activities on topics related to conflict mediation. SC14 (n=1) also informed about "conflict mediation training for students" and "conflict mediation training for operational assistants". Thus, it can be stated that the CMOs are not limited to the resolving aspect of conflicts, even though this is the most desired aspect and the one that shows more results (Pinto da Costa, 2019). The CMOs take care of the preventive and educational aspects of mediation, investing in training and awareness actions. From the combination of these two aspects of mediation a culture of mediation can emerge at school.

### 3.2.9. Educational integration

The participating SC (SC9, SC11, SC12, SC14 and SC15) (n=5) pointed out that mediation is provided for in the internal regulations. As it was a multiple-choice question: SC11, SC12 and SC15 (n=3) indicated that mediation was also provided for in the educational project and SC11, SC12, SC14 and SC15 (n=4) pointed out the improvement plan. The activity plan was marked by two (n=2) SC (SC11 and SC14). Only SC15 (n=1) indicated having included mediation in the class curriculum plan. The “*other*” option was not selected by any of the participants. This organizational dimension presented by Pinto da Costa (2019) is relevant, as it provides sustainability of the CMOs.

### 3.2.10. Results and impact

The results refer to the work of the CMOs in the school year 2017/ 2018. SC11 and SC12 (n=2) indicated that they carried out 100 consultations during this period. SC14 (n=1) recorded 163 appointments and SC9 and SC15 answered 60 appointments. These data reveal a visible work dynamics of the CMOs. The number of formal mediation sessions performed varied among the participating SC, from 0 to 100 sessions. Specifically, SC12 registered 100 sessions; SC14 referred 45 sessions; SC9 pointed out 40 sessions and SC11 registered 2 sessions. On the other hand, SC15 answered that they had no appointments (n=0). It was important to know in more depth if in this CMO the formal mediation modality is not foreseen. In general, the SC have formal mediation working in the school. Regarding the number of students mediated (students attended at the CMO), the values varied between 12 and 80 students. SC12 registered 80 students. SC11 referred 45 students. SC9 indicated 30 students. SC14 registered 26 students and SC15 indicated 12 students. Concerning the mediations performed involving the operational assistants: SC9 and SC11 referred three (n=3); SC12 referred ten (n=10); SC14 answered two (n=2) and SC15 none (n=0). Although reduced, these data confirm the participation of operational assistants in mediation sessions. Regarding the commitments assumed: SC12 indicated thirty (n=30); SC9 indicated twenty (n=20); SC14 reported having performed three (n=3); SC11 registered two (n=2); SC15 indicated that no commitment was made (n=0). There was a discrepancy between the number of consultations, the number of formal mediation sessions held and the number of commitments reached. It is important to collect more data on this reality in another future study. In terms of the impact of the CMO action, it was found that:

- the reduction in indiscipline was indicated by SC14 and SC15 (n=2) as relatively relevant (level 3); SC11 (n=1) marked it as a very relevant area (level 5), followed by SC14 (n=1) that identified it as relevant (level 4) and also SC9 that identified it as an area of minor relevance (level 2);
- the reduction of conflicts was pointed out by SC9, SC14 and SC15 (n=3) as relatively relevant (level 3), SC11 (n=1) referred to it as very relevant (level 5) and SC12 (n=1) as relevant (level 4);
- the reduction in violence was marked by SC9 and SC12 (n=2) as relevant (level 4), by SC14 and SC15 (n=2) as relatively relevant (level 3) and by SC11 (n=1) as very relevant (level 5);
- the improvement in interpersonal relationships was indicated by the SC9, SC12 and SC14 (n=3) with relatively relevant (level 3); SC11 (n=1) as very relevant (level 5) and SC15 (n=1) attributed little relevance (level 2);
- the improvement of the students' personal and social performance presented results of impact between very relevant and relevant. SC9, SC14 and SC15 (n=3) marked this area as relatively relevant (level 3); SC11 (n=1) indicated it as very relevant (level 5) and SC12 (n=1) as relevant (level 4);

- the improvement in the learning process was considered by the SC9 and SC15 (n=2) as not relevant (level 2); SC12 and SC14 indicated a relatively relevant impact (level 3); SC11 (n=1) considered it to be very relevant (level 5).

In the option “others”: SC9 (n=1) indicated that mediation had a reasonable impact (level 3) in terms of: “*greater security for the most fragile students*”. Based on the results, it was found that the reduction of violence (n=19) was the most relevant option regarding the impact of the action of the CMOs, soon followed by the following response options: reduction of conflicts (n=18) and improvement of students' personal and social performance (n=18), as well as reducing indiscipline (n=17) and improving interpersonal relationships (n=16). In general, the respondents stated that there was an impact of mediation in several areas of school life. According to Pinto da Costa (2019), it takes at least two years to start feeling some change and three to four years for this change to be tangible.

#### 4. CONCLUSION

With this research carried out in a Portuguese educational territory, the aim was to identify and get to know the CMOs better, as structures of social pacification in the educational community, through which it aims to innovate management procedures and conflict resolution; to improve the school climate and to educate for citizen coexistence. Through this research it was understood that:

1. The reason/need for the creation and existence of CMOs is the inadequate behavior of students and indiscipline, although other needs are identified, such as managing conflicts, reducing violence, and improving the school’s relational climate.
2. CMOs have the following main characteristics:
  - 2.1. They are autonomous structures, but can also be integrated in other socio-educational structures of the school;
  - 2.2. they have their own team, predominantly composed of teachers and psychologists, although they also include superior social technicians as mediators;
  - 2.3. the coordinators of the mediation teams are usually teachers or psychologists, who have training in conflict mediation;
  - 2.4. there are institutional difficulties to the good functioning of these socio-educational structures;
  - 2.5. CMOs are structures open to the school community, namely students, teachers, operational assistants and families;
  - 2.6. students are the ones who use CMOs the most, although operational teachers and assistants are also mediated, showing acceptance and adherence to the methodology of mediation;
  - 2.7. they benefit from the support of the SC directorates;
  - 2.8. mediation teams are essential to the dynamics of CMOs;
  - 2.9. they remain in continuous operation, implying that they are a socio-educational investment that is useful for school communities;
  - 2.10. they are not only dedicated to carrying out formal mediations, they also encourage training actions and other mediation activities;
  - 2.11. conflict mediation is foreseen in the school’s structural and strategic documents, integrating the school organizational culture.
3. The results of mediation activities may be different among schools, in terms of the number of consultations, students mediated, and agreements made. There is a consensus on the impact of the CMOs work in reducing violence, indiscipline and conflict and in improving the personal and social performance of students in managing their conflicts.

In summary, the CMOs have deserved the attention of schools in this national territory, as it happens in other regions of Europe, where school mediation is also making its way. CMOs are, in accordance with the principles and aims of conflict mediation, a structure of resolute, educational and preventive vocation. They present themselves as structures open to the whole school community and focus on the students, in the management of their coexistence at school. Teachers are directly involved in the practice of mediation and have specific training for this purpose. The practice of mediation is sustainable when it intersects with the mission, objectives, needs and challenges of the school, written in the school's structural and strategic documents. The CMOs are structures that carry out good practices, through which they try to give an educational response to some of the social problems that the school faces in the present times and that therefore can be promoters of educational quality.

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## INFLUENCE OF ACTIVE COMMUNICATION ON CRISIS MANAGEMENT

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### ABSTRACT

*Paper analysis the impact of media activity on the public perception of a business organization in a crisis situation. The starting point is the importance of crisis communication by which a business organization can change the direction of resolving the crisis and influence the recovery time and return to the state of regular business functioning according to the goals arising from the business strategy. The crisis communication management model affects the reputation of the organization no matter what it was like before the adverse circumstances and leads to the damage associated with the loss of trust of key stakeholders. The aim of this paper was to determine the importance of active action in the field of crisis communication in business organizations. A case study was conducted and the communication activities of three organizations were cited as examples of good practice and three as examples of negative and ineffective organisational communication. The analysis determined the readiness of the organization and how the planned crisis communication was reflected on the public through the media. Data were collected by secondary research of existing sources, and in this paper they are analyzed and discussed. The hypothesis that read 'More active communication with the public in times of crisis can have a positive effect on the perception of the organization by the public' was confirmed.*

**Keywords:** *Public opinion, crisis situation, crisis management, crisis communication, crisis communication management*

### 1. INTRODUCTION

The modern business environment is characterized by frequent occurrences of crisis situations that have a large, potentially negative, effect on the organization. After the information about the crisis reaches the public, an attempt is made to discover the cause due to the timely adjustment of crisis communication. Fearn-Banks (according to Tafra Vlahović, 2011) defines a crisis event as one that has a potentially negative outcome for the organization as well as its public, products, services or reputation. The elements that are always associated with a crisis are surprise, threat, and short response times. Crisis communication is an interactive process, ie the exchange of information or opinions before the crisis, during and after the outbreak of a crisis situation. Crisis situations include both specific and unexpected events that create uncertainty for organizations and experience a threat to certain priorities. In order to eliminate the impact of the crisis and/or reduce the crisis to a minimum, the messages in communication often become multiple. Individuals, organizations and groups of people can be involved in crisis communication (Bulajić, 2010). Plenković (2015) defines crisis communication as a scientific and praxeological discipline that emerged as a result (oriented dynamically directing vector of

structuring the public) of all possible crisis messages and communication laws, especially those dealing with human behavior in dangers or crises. Plenković (ibid) and Bulajić (ibid) believe that every person can achieve successful or unsuccessful crisis communication in their environment (social, economic, political). Public events are the basis for the emergence of crisis and danger, and this implies sudden and undesirable conditions affecting individuals or groups. Bulajić (2010) states that it is important to distinguish a crisis situation and a failure. He considers a crisis situation to be a process of transformation when the old system in the organization is no longer sustainable and it implies the need for change. If there is no need for change, one can talk about failure. Whether the crisis is of a greater or lesser proportion, it goes through several phases: beginning, rise, peak, fall, and end. The cause of crisis situations is most often a human factor. Crisis management consists of crisis communication that uses different forms, that is, depending on the article that someone has read and the information thus obtained, individuals act. Any business or public organization can prepare for a crisis regardless of the factor of surprise that the crisis mainly causes (Tomić and Milas, 2006). DiSanza et al. (2009) state that crisis communication involves the way an organization in crisis communicates with employees, the media, the public, customers, etc. Crisis communication has two primary goals: to protect the public affected by the crisis and to restore the organization's damaged reputation. It also depends on the public. Crisis communication should be managed before it occurs, ie potential risks should be considered in a calm and objective environment, and in addition to the ways of possible responses to them, it is necessary to determine key stakeholders to whom in case of certain risks it is necessary to direct communication and determine modalities. Experience has taught most organizations that it is necessary to monitor the causes of risks that are specific to their business in order to make a plan to avoid crisis situations. As an example, there may be large airline companies that need to be aware of the possibility of aircraft crashes and must know first and foremost how to prevent this, but if this happens they also need to be able to know how to deal with the consequences (Lueke, 2005). One of the first causes of the crisis is the reduction in the number of employees, which causes tension in the organization, a decline in loyalty and a general feeling of insecurity. Financial results can trigger a range of negative reactions and factors, from declining credibility to reduced productivity, declining stock value, and can lead to lawsuits. Spreading rumors can be a cause of a crisis situation and lead to a loss of loyalty of its stakeholders (Tafra-Vlahović, 2011). The need for crisis communication can be caused by: accidents, business scandals, employee strikes, explosions in factories, fires, investigations, sabotages, terrorist attacks, loss of the market and the like. News of the crisis today is spreading rapidly due to advances in communication technology (DiSanza et al., 2009). In general, it is not a single cause, but a combination of causes that lead to the crisis of the company. It is generally considered to be about making the wrong decisions and neglecting the influence of the environment. The causes of business crises can be divided into several areas: company management, organization, employees, production, sales, finance, and the market and environment. The crisis in the management of the company occurs with unclear definition of goals, errors in defining strategies, lack of control in professional areas, errors in activities to eliminate deficiencies etc. The crisis in the organization occurs due to high fixed costs, expensive and time-consuming processes, while the crisis in production occurs due to outdated and unsuitable products and insufficient product quality. In the sales process there is a crisis due to incorrect market analysis, incorrect assessment of future needs and pricing policies, failure to monitor new technologies and changes. The crisis among employees occurs due to fluctuations, unnecessary and expensive centralization or decentralization, non-existent employee development system, and in finance due to insufficient own resources, wrong cost management system and lack of controlling. The last area of the business crisis is the market and the environment in which the crisis occurs due to a decrease in the volume of orders with rising costs, increased competition, increased taxes etc.

(Osmanagić Bedenik, 2003). External causes arise outside the organization and these cannot be influenced by the organization, and are most often caused by: changes in the market that significantly affect the company's operations and can cause the company to cease to operate; general economic crisis and political and legal changes, ie changes that occur during the change of management and supervisory board. The last influence a crisis within the organization because it takes some time for new members to adapt to new working conditions. This type of crisis situation is typical for public organizations (Legčević, 2014). There are external events that can be predicted and those that cannot and it is important to distinguish between these two categories of external influences (Sučević, 2010). The first category includes political, economic or regulatory characteristics of the market that cannot be influenced, and the second category includes changes in the environment. According to Sučević (ibid), external influences are economic, competitive, political, social and technological changes. Economic changes are defined as adverse changes in the economic environment and include a general decline in demand, adverse changes in foreign exchange rates of foreign partners, the international monetary crisis, rising interest rates, falling credit placements and the like. If managers do not carefully monitor competitive changes (appearance of products at lower prices, merger of two competitors, new competing products, etc.) they do not assess their importance and do not take the necessary actions. The company then certainly loses its competitors advantages. Political change never takes into account the cost of implementing new laws in companies that always bring the need for additional education and work. The company is generally not well prepared for social change. Their slowness is a problem because management never knows when they occurred and therefore they can easily be ignored. Technological change involves the speed of technological progress which increases in the past years. If new technologies are not adopted and progress is not monitored, the company can fail (Sučević, 2010). Osmanagić Bedenik (2003) lists two key external causes of the crisis: economic developments that significantly affect business success and business failure, and structural changes that are defined as sudden and unpredictable changes such as new techniques or new materials for products. Internal causes of crisis situations can be incompetence and immorality of management or employee dissatisfaction, which can cause a major crisis in the organization (Tomić et al., 2006). Such situations often lead to mistrust in all organizational relations. The consequences of mistrust are mutual denial of important information for the organization's business or that the personal interests of the individual become more important than the interests of the company (Legčević et al., 2014). Sučević (2010) sees the supervisory board, management, poor financial management, high costs and intentional harmful behavior as internal causes. The Supervisory Board has two important tasks. These are selection of management and constant control of business information in order to detect the first signs of problems. The next cause is poor management for which one of the main tasks is dealing with people. The last cause is intentional harmful behavior. Harmful behavior of customers is their avoiding of settling obligations to the company while harmful behavior of employees and of management is shown through abusing authority for their own benefit. Osmanagić Bedenik (2003) also believes that mismanagement is one of the causes of the crisis. Leadership errors occur because the necessary analyzes are not made before decisions are made leading to omissions or inefficiencies.

## **2. RESEARCH METHODOLOGY**

The aim of the research was to determine the importance of communication in times of crisis and the impact of media activity on the public perception of the business organization. The initial hypothesis was: "More active communication with the public in times of crisis can have a positive effect on the perception of the organization by the public." The idea is that active communication can be the key instrument while struggling with other elements of crisis. The research was conducted using the case study method and the communication content analysis



method. The research sample is media publications on the website for six crisis situations of organizations from Croatia and abroad. Organizations are divided into two groups: those that have been effective in crisis management and those that have not. McDonald's, FedEx and Vindija were analyzed as examples of effective crisis communication, while Karlovačka pivovara, T-HT and Pan American World Airways were analyzed as examples of inefficient crisis communication.

### **3. EXAMPLES OF GOOD COMMUNICATION MANAGEMENT PRACTICE**

McDonald's serves approximately 68 million customers daily in 119 countries across 36,535 branches, including 14,259 locations in the United States. The first McDonald's, a fast food restaurant, was founded in the United States in 1940 ([www.mcdonalds.com](http://www.mcdonalds.com)). McDonald's crisis communication was observed in a situation when it was anonymously reported that carcinogenic metallic cadmium was found in color on a glass with a character from the cartoon "Shrek". On June 4th 2010, McDonald's withdrew 12 million glasses from production after it was reported. Responding quickly and responsibly is the result of caring for the safety and well-being of consumers. A strategy has been to pay \$ 3 to each consumer who returns a glass, which is half a dollar more than the price of a glass. McDonald's spokeswoman in the US, Danya Proud, said it was important to retain and appreciate consumers. A product safety spokesman expressed satisfaction with the response and cooperation as the color was tested immediately after the warning. The fact is that McDonald's Shrek glasses were in compliance with federal regulations at the time of production and distribution, but that didn't stop Congress from taking further action. The company was asked to submit documents proving that the color on the Shrek glasses was tested, as well as a list of companies with which it cooperates for the production of products for children. A description of the company that produced the Shrek glasses was also requested. What could have been done was to increase the standard of control, and McDonald's promised this publicly and communicated with the public all the time, that is, reported to them about the entire crisis situation ([www.qsrmagazine.com](http://www.qsrmagazine.com)). McDonald's is an example of effective crisis communication for the reason that it immediately admitted guilt and did more than consumers expected, and that is a refund of half a dollar more than the value of the glass itself even though the company is not directly to blame for the situation. They worked closely with the Product Safety Commission and by that minimized the further development of the crisis situation and preserved their reputation with the public for their timely and responsible response. It can be said that the cause of the crisis situation is actually of an external nature, since McDonald's does not produce glasses, but they were ordered. FedEx Express is a cargo airline based in Memphis, Tennessee, United States. The world's largest airline performs the delivery of packages and cargo to more than three hundred destinations every day in almost every country (<http://about.van.fedex.com>). The crisis situation for FedEx begins with showing the surveillance camera footage on Youtube. Footage from the summer of 2012 shows their delivery man throwing a package containing a computer monitor over a fence onto the lawn and leaving. In just a few days, the footage was viewed by over 5 million people. The owner of the delivered package told the media that he was at home and that the delivery man just needed to ring the bell. FedEx, aware of the fact that the posted video could seriously harm the company, decided to record a video response two days after the crisis and posted it on the official FedEx blog. In the video response, the senior vice president of the board accepted responsibility and acknowledged the mistake of the employee and stated that the situation would be an example to other employees to do their job conscientiously even when no one is watching them. The employee was suspended and the damage done to the owner was reimbursed. The video met with very positive comments from the public (Sedek, 2012). In order to maintain its reputation, FedEx has come up with a unique solution, a video response. The crisis team adhered to the first rule of crisis communication: a request for a public to accept

apology and a timely response. To achieve this, today the organization needs to follow social networks and be active on them. Vindija was founded in 1959 and, in addition to milk production, it produces juices in tetrapack packaging and ready-made milk puddings. In 1995, Koka, a Croatian chicken producer, was taken over and sold in stores under the Cekin brand. Today, Vindija owns 14 companies, 8 in Croatia and 6 in the surrounding countries (<http://www.vindija.hr/>). With bird flu in Croatia in 2015 a crisis situation emerged. The news upset consumers and there was an increase in the consumption of pork and fish products. The director of meat production told to the print media Nacional that he guarantees the safety and health correctness of all poultry meat products. He also states that the production takes place in closed facilities, thus preventing other birds from entering the area. Although Koka has high hygienic production standards, business has been disrupted. However, the person in charge of public relations states that poultry meat is not dangerous to health because the bird flu virus is thermolabile and is inactivated by a temperature of 56 degrees, and when cooked, even more is achieved. Vindija realized that their sales had fallen due to the crisis and decided to invite the then Prime Minister Ivo Sanader and members of the government to taste their domestic meat in front of the cameras, which actually ended the crisis, ie changed the public's view of the crisis (<http://arhiva.nacional.hr>). A positive example of Vindija's crisis communication is the fact that the public was addressed by one person who is part of the organization and knows its entire business. The company made arguments about its business standards and aimed at calming customers. The strategy used proved to be a great way to create the desired public perception and protect the reputation.

#### **4. EXAMPLES OF POOR CRISIS COMMUNICATION MANAGEMENT**

The most famous example of inefficient crisis communication in Croatia is the case of Karlovačka pivovara from 2007. Karlovačka pivovara is part of the HEINEKEN company, which is the market leader in Europe, and its production tradition began in 1854. It operates in the domestic market as one of the leaders, and exports to foreign markets (Australia, Austria, Canada, Germany, etc.). The event that preceded the crisis communication of Karlovac Brewery was the poisoning of Zdravko Martinović in 2007, with ammonia from the stream of Karlovac Brewery. Martinović went for a walk with the dog along the stream, but when he did not return home, his wife soon found him unconscious due to inhaling ammonia while rescuing a dog that fell into the stream, also due to ammonia stunning. The dog did not survive, and Martinović ended up in hospital in life-threatening condition. Ammonia is used in the factory as a refrigerant. The next day, Indeks.hr and other media reported on the incident. Two days after the incident, Karlovačka pivovara announced that they were resolutely denying that the cause of the accident was the release of ammonia from their factory (<http://arhiva.nacional.hr>). Also, their PR gave a statement that the possibility of releasing ammonia from the brewery plant is excluded and that they conducted detailed technical tests according to which no ammonia was released from the brewery in any form. Jadranka Grbinid, Karlovac's environmental inspector, states that before the incident, there was a leak of ammonia when moving it from one plant to another. This claim contradicts the claim from the PR statement. In the following days, it was found that other residents living near the factory also had symptoms of ammonia poisoning. Some political parties also came forward, believing that the competent services, state institutions and inspectorates had failed, while the locals believe that the whole case wants to be covered up. Their suspicions were aroused by the management of Karlovačka pivovara because, after their own inspections they announced that "everything was fine" with their actions. A few days later, a brown-red liquid appeared in the canal near Karlovac Brewery. On the same day, it was explained that the reason for that color was the rinsing of the Karlovac Brewery canal. A spokeswoman for Karlovac brewery only later stated that the cause of the poisoning was actually carbon dioxide, which was inadvertently released into the canal, which

admitted the brewery's responsibility. Five employees of the Brewery, including the technical director, were taken to the Karlovac Police Department Investigation Center for a serious crime against public safety and endangering human health and life, and only a few days later the brewery was temporarily banned from further pollution. A month later, a man died from the effects of poisoning near the brewery. The accused were sentenced to three years in prison for non-compliance with regulations, while Karlovac brewery itself received a fine of HRK 3 million ([www.index.hr](http://www.index.hr)). The first mistake in managing the crisis communication of Karlovac Brewery is a five-day delay in advertising the case. Thus, they became the main news of all media. The next mistake is to give incomplete and inaccurate information, that is, to deny the possibility of the own guilt. Also, in such an extremely critical moment, the company decides to communicate exclusively through a spokesperson. This would not necessarily be bad if it were not communicated through two spokespersons one of whom was an employee of a PR agency and not the organization itself. The problem is that the public identifies the spokesperson with the company they represent. The spokespersons themselves made a mistake in choosing the way of communication because one of them was visibly nervous in his statements, and the other left an impression of insensitivity, which is not by no means an acceptable approach ([www.index.hr](http://www.index.hr)). It is concluded that Karlovac brewery has lost the trust of citizens, millions of kunas and a reputation built over the years due to being unprepared and not having the crisis communication plan and the untimely response.

T-HT Group is the leading provider of telecommunications services in Croatia. The services they provide are: mobile and fixed telephony, wholesale, internet and data services, as well as internet services, IPTV and ICT services, data transmission services (line rental, Metro-Ethernet, IP / MPLS, ATM) and mobile telephone network services, GSM, UMTS and LTE. The company is organized in a way that always takes care of its customers in an efficient and flexible way, ie organized in several business units at the service of customers ([www.t.ht.hr](http://www.t.ht.hr)). T-HT had a crisis communication experience in November 2010 when a network failure occurred that made it impossible for 2.7 million users to make or receive calls. The error occurred while upgrading the T-mobile network from Nokia Siemens Networks. Since the users failed to make mobile calls for two days, the person in charge of communicating with the public promised two days of free calls in Croatia to all networks as a sign of apology (<http://www.index.hr/>). Although T-HT did not ignore the situation, their reaction was not timely. It is believed that they did not expect they would not be able to correct the malfunction for so long. The rule of crisis communication dictates that in a crisis, one should communicate with the media in a timely and reactive manner, so due to this lack, users did not know what was happening. From the first day of the breakdown, there was no direct communication with the public or users on the network, nor was they informed about the status of troubleshooting. Although in a crisis situation the crisis should be reported by the person representing the organization, users only received information about the fault from the media. The potential crisis situation could be mitigated if users were informed about the network upgrade and there is a possibility that an error may occur during the upgrade since it is a large system. The similar crisis situation occurred just ten years later where company showed slight improvement in communication management.

Pan American World Airways is the first American international airline. The company began to grow and operate in the area of major Latin American cities until the early 1930s (<http://www.everythingpanam.com/>). Pan Am uses a jet aircraft, a jumbo jet and an advanced reservation system that have helped them in the commercial aviation industry. An important part of Pan Am's success was the highly qualified pilots, crew and support staff. The 1973 crisis was caused by rising fuel costs and declining demand for air travel. The next crisis that followed was the hijacking of Pan Am Flight 73 in Pakistan in 1986 and the terrorist bombing of Pan Am Flight 103 in 1988 over Lockerbie in Scotland. In that attack, 259 people lost their lives on the plane and 11 on the ground.

The accident became the main news of all media and did irreparable damage to the reputation of the airline (<http://www.investopedia.com/>). Disrespecting the foundation of crisis communication - acknowledging the truth, the Pan Am company made a big mistake by deciding to cut off communication with journalists and the media. Convinced that a non-communication strategy will separate the company name from the tragic consequences they only made the media even more interested in the tragedy, which presented their side of the story in the way media wanted. They also denied possible terrorist warnings and the company's management did not personally apologize to the families of the victims, nor did they take responsibility for the accident. The decision not to communicate with the media turned out to be extremely bad for the company's reputation and public confidence in the company. Most of the revenue came from the overseas airline, and passengers preferred to choose competition due to the entire crisis. Pan Am ended up in bankruptcy because of all this. The crisis could have been alleviated, and Pan Am retained its reputation for addressing the public immediately after the accident and for proactively communicating with the media (Novak, 2001).

## 5. RESULTS

The number of media announcements about the crisis situation and communication was used in the analysis to determine the impact on the company. Table 1 shows the number of media announcements about crisis situations of individual organizations in the Republic of Croatia and the world. The number of announcements about crisis events for Karlovac brewery, Vindija and T-HT group was analyzed.

*Table 1: Media announcements on crisis situations of organizations*

	Indeks .hr	Večernji list	Dnevnik.hr	Cause of crisis	Total No of media announcement
<b>Karlovac brewery</b>	29	-	73	internal	102
<b>Vindija</b>	44	-	5	external	49
<b>T - HT grupa</b>	2	1	1	internal	4
	NYTIMES	Greenbiz	BBC	Cause of crisis	Total No of media announcement
<b>FedEx</b>	-	-	-	internal	0
<b>Pan Am</b>	-	-	1	external	1
<b>McDonald's</b>	1	1	1	external	3

*(Source: Author according to archives of the media portals)*

It is obvious that the media would be most interested in the case of Karlovac Brewery, since it was a threat to human life, and ultimately death. Most news about the event was followed and transmitted by the portals Dnevnik.hr (73) and Indeks.hr (29), while Večernji list did not follow the case. Media Dnevnik.hr and Indeks.hr also monitored the crisis situation in Vindija, but with half the number of publications (49). However, the crisis situation of the T-HT Group went almost unnoticed with only 4 publications in total on the analyzed portals. As far as organizations outside Croatia are concerned, it is evident that some portals had almost no interest in publishing the organization's crisis situations. The reason for this is the timely response to a crisis event, ie the reaction of the crisis team and manager. The FedEx situation was monitored via a YouTube channel, ie a video recorded by tens of thousands of people. What can be noticed is that the media have, regardless of the internal or external causes of the crisis, more interest in crisis situations that affect people's health and lives and untimely reactions of managers to the crisis event, which brings under the magnifying glass the

management of the company. If the company does not react adequately to the crisis event, especially if it is a matter of covering up or presenting untrue information, it is to be expected that this will arouse the interest of the public. With good communication, the company could reduce the negative attention of the public, and thus protect its reputation.

## 6. CONCLUSION

In order for a business or public organization to operate successfully, and in addition to satisfactory income, it must also have the trust of the public and its employees. This means that when a crisis situation occurs, the organization must communicate with the public, ie it must have one representative who will proactively and reactively inform the public about the development of the crisis situation and the stage of its suppression. In this way they create an organization influencing the perception of the public in accordance with the achievement of the desired image, and thus have a crisis situation under control. Having the situation under control involves providing accurate and timely information and preparing a crisis plan in advance, before the crisis itself. Refusing to communicate with the media, or providing inaccurate and unverified information, will only further exacerbate a crisis situation that can create major financial damage or jeopardize an organization's reputation, and may lose public trust leading to eventual failure. It is important that the organization accepts responsibility in the event of a crisis, and that tasks are divided within the organization so that the crisis situation can be mitigated or prevented in a timely and responsible manner. In order for communication to be successful, it is necessary to know how to manage all the incoming information coming from certain sources. With the help of active communication that involves media announcements on portals and news, it has been proven that a company can greatly reduce the negative attention of the public, and thus protect the reputation of the organization.

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## KNOWLEDGE SHARING AND KNOWLEDGE TRANSFER IN BUSINESS NETWORKS

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### **ABSTRACT**

*Both knowledge management and networking are currently in the center of attention. Although many studies are focused on knowledge sharing (KS) and knowledge transfer (KT), they usually describe these processes inside an enterprise. However, at a time when business networks seem to be the only solution to the problems of globalization and growing competition, inter-organizational KS and KT are especially important. The flow of knowledge between business partners should be the subject of research, because it can contribute not only to the development of science, but also to the practical applications of KS and KT in management. The critical literature review was carried out. It was found that knowledge sharing and knowledge transfer are often a subject of research as a main part of knowledge management, however in the context of networking they are studied relatively rarely. Fragmentation of empirical knowledge indicates the need for thorough research in this topic. Definitions inconsistency was identified as the main reason for a small amount of research and as a significant barrier to the development of research in this area. The terms KS and KT are sometimes used synonyms, sometimes they are taken as similar processes, and sometimes they are strongly distinguished. As a consequence, research results are inconsistent. It was proposed to use the term knowledge flow (KF), which includes both knowledge sharing and knowledge transfer. Such a more general view may allow to gather the current research results into a coherent whole, despite the differences in definitions. However, by generalization some of the details can be omitted.*

**Keywords:** *Business networks, Knowledge flow, Knowledge management, Knowledge sharing, Knowledge transfer*

### **1. INTRODUCTION**

Knowledge is currently considered the most important strategic resource (Zheng, 2017). It is an organizational asset that can be a source of competitive advantage, prosperity and effectiveness (Alsharo et al., 2017). The knowledge-based economy is the approaching and near future and it sets new rules, where intangible resources such as intellectual capital, knowledge, creativity and innovation become the main factors for the development of an organization (Brzeziński, 2018; Riege, 2005). Knowledge is a driving motor for all innovative behavior (Akhavan et al., 2015). A growing importance of knowledge and its impact on organizational competitiveness cosed the debate on knowledge sharing (Ajmal and Kristianto, 2010). The economy is constantly changing. Enterprises face new challenges such as globalization and growing competition. The dynamic market changes cause that individual enterprises are not able to resist an growing competition on their own (Skowronek-Mielczarek, 2014). They must find a way to survive in an ever-changing business environment. One of the possibilities is to create business networks. Networking gives companies an access to new resources, new clients and knowledge transfer (Kawa and Pierański, 2015). The network's activity directly support each of the network partners (Bøegh et al., 2000). On the other hand due to the synergy effect, the network can achieve a competitive advantage. Both networking and knowledge management can give a company a competitive advantage. So knowledge sharing and knowledge transfer in business networks are important aspects of the modern economy and interesting topic for researchers. The aim of this article is to explore knowledge sharing and knowledge transfer in business networks and identifying barriers to the development of research

on inter-organizational knowledge sharing (IKS) and inter-organizational knowledge transfer (IKT). The purpose of this paper is also to indicate future research directions. The critical literature review was chosen as the research method. The author focuses on the initial recognition of the topic, and in particular on highlighting the definition inconsistency underlying the theoretical inconsistency in the topic under study.

## 2. KNOWLEDGE SHARING AND KNOWLEDGE TRANSFER

The origins of concepts KS and KT are attributed to Nonaka (1991), even though he did not use them directly. Initially they were used interchangeably but later they have been separated (Paulin and Suneson, 2012), what is clearly visible in the literature as two separate research streams. Nevertheless, it is very difficult to identify and explain the difference between them. Currently the terms KS and KT are sometimes used synonymously or are considered to have overlapping content (for instance Cruz et. al., 2009). If KS is a set of all knowledge sharing activities, and KT is a set of all knowledge transfer activities, then we can say that these sets are equal (Figure 1).

Figure 1: The relationship between KS and KT - concept 1



(Source: Own elaboration)

Other authors consider this a misconception and try to clarify the differences. For instance Tangaraja et al. (2016, p. 653) state that, “KS is a subset of KT (using personalization strategy), whereas KT as a whole is a broader concept, if compared with KS.” (Figure 2).

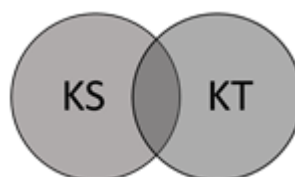
Figure 2: The relationship between KS and KT - concept 2



(Source: Own elaboration)

According to King (2006, p. 493) “a major distinction between knowledge sharing and knowledge transfer (...) is that transfer implies focus, a clear objective, and unidirectionality, while knowledge may be shared in unintended ways multiple directionally without a specific objective”. This explanation shows another connection between KS and KT (Figure 3).

Figure 3: The relationship between KS and KT - concept 3



(Source: Own elaboration)



The group of authors tried to explain the definition inconsistencies between KT and KS. For instance Paulin and Suneson (2012) call these concepts blurry terms and try to explain the differences between them. According to the authors, this blurriness results mainly from different understanding of knowledge (knowledge as an object – K-O or knowledge as a subjective contextual construction - K-SCC). They refer to the tendency of researchers to use the term KS in the case of K-O view and the term KT in the case of K-SCC view. Chou and Tang (2014) undertook the same task using the bibliometric method. Series of bibliometric analyses showed that knowledge transfer emerged earlier and is more multidisciplinary while knowledge sharing is more connected with knowledge management context and application of information systems. Tangaraja et al. (2016) also analyze the relationship between the concepts of KS and KT and write about a misconception in the literature. They try to minimize the confusions in the KM literature and, based on the review of selected articles, they attempt to differentiate this two terms. The authors based explanation of differences on the two perspectives (unidirectional/ bidirectional) of KS and the two strategies (personalization/codification) of KT. Ipe (2003) assumed that knowledge sharing describes the movement of knowledge between individuals, while knowledge transfer - predominantly between larger entities. Currently, this is not a commonly used distinction. Although the terminology in the case of KS and KT is not obvious, the authors often use these concepts without referring to any definition (e. g. Czakon et al., 2020; Rajabion et al., 2019). Some authors focus on one of these concepts and ignore the other entirely (e. g. Nooshinfard and Nemati-Anaraki, 2014). Another group of authors, although focusing on one of these concepts in line with the title of the article, regularly refers to both concepts simultaneously in the text (e. g. Asrar-ul-Haq and Anwar, 2016). In practice, often the content of the publication does not show how KS or KT is understood. As a result, it is difficult to compare the research effects.

### 3. KNOWLEDGE SHARING AND KNOWLEDGE TRANSFER IN BUSINESS NETWORKS

#### 3.1. Researchers' interest in the subject

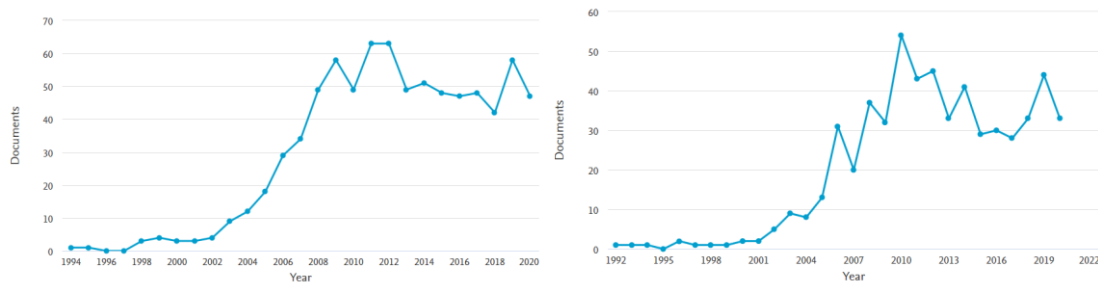
According to the preliminary review of literature, although knowledge sharing and knowledge transfer are very topical issues, which are in the centre of attention of many scientists, however, in inter-organizational terms they are relatively rarely the basic topic of research (Table 1).

*Table 1: Preliminary exploration of the literature – number of publications*

<b>Search criteria: title, only scientific literature.</b>	<b>EBSCO</b>	<b>ProQuest</b>	<b>Web of Science</b>	<b>Scopus</b>
“knowledge sharing” OR “sharing knowledge”	848	2112	4073	5544
“knowledge transfer” OR “transfer of knowledge”	961	1507	3329	4143
(“knowledge sharing” OR “sharing knowledge”) AND inter-organizational*	99	197	579	792
(“knowledge transfer” OR “transfer of knowledge”) AND inter-organizational*	96	207	467	578

*\*inter-organizational = (interor-ganizational OR interorganizational OR inter-firm OR interfirm OR “business relationship” OR “B2B relationship” OR cooperat\* OR collab\* OR partnership\* OR network\* OR alliance\* OR “supply chain”)*

*(Source: own description based on: EBSCO, ProQuest, Web of Science, Scopus [24.10.20])*

*Figure 4: Number of publication on IKS (on the left) and IKT (on the right)*

(Source: own description based on Scopus [24.10.20])

The number of publications on IKS and IKT is similar. Interest in these topics increased after 2005 and currently remains at a more or less constant level (Figure 4).

### 3.2. Interorganizational level of knowledge sharing and knowledge transfer

Initially, knowledge sharing and knowledge transfer were considered within the organization. However, with time it was noticed that the flow of knowledge between companies is extremely important and in the case of both KS and KT, the inter-organizational level was studied. KS is very important for organization and affects all organizational levels (Ahmad and Karim, 2019). Many previous studies have distinguished three levels of knowledge sharing: individual, team and organizational, but they leaved out the inter-organizational level (Vuori et al., 2019). The acquisition of new external knowledge is really important for the business objectives (Martin-Rios and Erhardt, 2017). Knowledge sharing aims not only passing information, but also problem solving, making decisions or developing new processes (Ahmad, 2018). Currently knowledge sharing is often studied in the context of business cooperation or competition. Inter-organizational KS can be both unilateral, for example in an outsourcing contract, as well bilateral - an example is the collaboration of R&D units (Loebbecke et al., 2016). Soekijad and Andriessen (2003) present important factors for the successful knowledge sharing between competing organisations cooperating in alliances. Interorganizational knowledge sharing are gaining in importance when building international cooperation (Gattringer and Wiener, 2020). Bøegh et al. (2000) observed, that informal activities among network participants take place, e. g. by asking experiences and advice. Tsai (2001) pays attention to knowledge transfer in intraorganizational networks, among organizational units. In multiunit organization, units can benefit from knowledge developed by other ones. The same mechanism may take place between organizations. Knowledge transfer process takes a different scope and course in network organizations (Smyczek, 2015). Firms at the center of an organizational network may benefit from educating and building up competencies of their partners and therefore centers often seek to transfer knowledge to partner companies (Hutzschenreuter and Horstkotte, 2010). When it comes to the development system of partners in the network, in the case of large institutions, the activities are focused on training for new partners (Smyczek, 2017).

### 3.3. Definitions

Inter-organizational KS is defined in various but related ways. The examples collected in Table 2 define KS at various levels, including the inter-organizational one.

*Table following on the next page*

Table 2: Sample definitions of knowledge sharing

<b>Publication</b>	<b>Definition</b>
Lee, 2001, p. 324	<i>“(...) we define knowledge sharing as activities of transferring or disseminating knowledge from one person, group or organization to another.”</i>
Charband and Navimipour, 2016, p. 1131	<i>“Knowledge sharing is an activity through which knowledge, namely, information, skills, or expertise, is exchanged between people, friends, families, communities or organizations”</i>
Ipe, 2003, p. 341	<i>“Knowledge sharing is basically the act of making knowledge available to others (...)”</i>

*(Source: own description)*

There are many similarities between these definitions of IKS and definitions of IKT. Inter-organizational KT was also defined in various but related ways (Martinkenaite, 2011). Examples of definitions was gathered in Table 3.

Table 3: Sample definitions of inter-organizational knowledge transfer

<b>Publication</b>	<b>Definition</b>
Easterby-Smith et al., 2008, p. 677	<i>(inter-organizational) “Knowledge transfer, defined here as an event through which one organization learns from the experience of another...”</i>
Lim et al., 2015, p. 50	<i>“We defined inter-organizational knowledge transfers (...) as exchanges of knowledge between sender and recipient organizations”</i>
Retzer et al., 2012, p. 343	<i>“Inter-organizational knowledge transfer (...) describes the movement of (...) knowledge between two or more organizations.”</i>

*(Source: own description)*

The authors use terms such as: transferring or disseminating knowledge, exchange of knowledge, making knowledge available, the movement of knowledge. Definitions of Lim et al. (2015, p. 50) and Charband and Navimipour (2016, p. 1131) in relation to the inter-organizational level are particularly similar.

### 3.4. The advantages of IKS and IKT

Between many benefits of inter-organizational KS and KT, two are particularly highlighted: gaining competitive advantage and innovative development. Supporting firms' competitiveness and innovations by new knowledge is underlined in both research streams. Researchers emphasize the importance of inter-organizational knowledge sharing for the development of innovation. Business networks are the mechanism for knowledge sharing to gain innovation and competitive advantages (Ali & Hawryszkiewicz, 2014). Czakon et al. (2020) pinpoint clear managers preferences for basing network cooperation for radical innovation on intensive knowledge sharing. KS between companies has a significant impact on their pro-ecological activities. Song et al. (2020) study green innovation benefits of sharing green knowledge among supply chain members. Knowledge sharing among partners in the food sector can develop eco-process innovations (González-Moreno et al., 2019). Competitiveness of companies is supporting by ability of knowledge transfer in business networks (Massaro et al., 2019). The studies on inter-organizational networks suggest that the networks allow for effective transfer of information between companies and this may be treated as the mechanism to keep a company

innovative (Boschma and Ter Wal, 2007; Mitreġa , 2012; Fang et al., 2017; Tsai, 2001). The networks can be also a good tool to transfer knowledge from more experienced, developed countries to smaller societies (Bøegh et al., 2000). We can find examples of effective inter-organizational knowledge flow in the literature. The growth rate in Silicon Valley is higher than average and one reason is the culture of open exchange of information, that makes companies more competitive. In Silicon Valley quite openly people share knowledge even between direct competition (Bøegh et al., 2000). The researchers emphasize the importance of inter-organizational knowledge flow. It is time to create mechanisms to improve the knowledge flow and to increase the efficiency of inter-organizational knowledge exchange (Mentzas et al., 2006). Business networks and strategic alliances increase innovativeness of the companies, because they facilitate knowledge flows, what is especially important in industries like biotechnology, where knowledge is quickly changing (Capó et al., 2004). Networking processes in knowledge-intensive business can have a positive effect on an opportunity to create a development of regions (Mrozińska, 2016). Another advantages of knowledge sharing and knowledge transfer in business network are capturing of value created in the network and synergy effects (Ilvonen & Vuori, 2013).

### **3.5. The main threats of IKS and IKT**

Companies must manage the flow of knowledge between organizations and balance between making knowledge available and protecting it. The main threats associated with knowledge flow in business networks seem to be leakage of knowledge, as a result of network members' opportunistic behaviour and risk of conflict with network partners (Ilvonen & Vuori, 2013). It is very important to achieve a balance between sharing knowledge and protecting it. Rouyre and Fernandez (2019) emphasize that intense tensions between knowledge sharing and knowledge protection in innovation projects among several competitors can cause project failure. When companies are at the same time suppliers and customers or partners and competitors to each other, it can cause problems related to the spill-over of knowledge during inter-organizational knowledge transfer (Easterby-Smith et al., 2008). They have to balance between knowledge sharing based on collaboration and competitive knowledge protection (Gast et al., 2019). In knowledge-intensive business networks, business processes can also lead to negative consequences, for instance excessive concentration of management functions or absorption of resources from the less developed and less attractive regions (Mrozińska, 2016).

## **4. DISCUSSION**

Many economic terms are difficult to define. There are no clear definitions of such basic concepts as for example information, knowledge, knowledge management. Some economic phenomena or processes are described by many, sometimes very different definitions. However, in the case of KS and KT, the situation is different. Especially in the case of their inter-organizational level, these concepts seem so obvious that their definitions are often overlooked. As a result, it led to the creation of two separate scientific streams, one of which focuses on knowledge sharing and the other one on knowledge transfer. Although both of these research trends refer to the work of Nonaka (1991) and see their origins there, it is currently difficult to observe their cooperation. A researcher intending to deal with the flow of knowledge between organizations is faced with the question of which of the research streams he should choose. However, the answer to the question of what is the difference between KS and KT is much more complicated than one might expect. The few, similar definitions of these terms do not answer this question. Scientific studies showing differences between KS and KT are very few and show contextual rather than significant differences. As each of these studies is based on a limited list of literature, it can be assumed that changing the content of this list would lead to different conclusions.

Also, a small number of such studies show that the topic is very difficult and ambiguous. The problems described above may discourage from taking up the very important topic of knowledge flow between organizations.

Let's take a look at the current situation:

- KS (IKS) and KT (IKT) are terms that are difficult to distinguish clearly,
- each of these processes is studied separately,
- the subjects of the research conducted in both groups are analogous,
- literature reviews on the KS and KT are conducted separately.

While researchers tend to do more detailed, piecemeal analyzes, a more general look is needed for KS (IKS) and KT (IKT). The integration of research conducted so far separately could organize and greatly enrich their results. As the number of publications in each research stream is similar, a good solution seems to be the applying a new, common term for all processes covered so far by the KS and KT. It is proposed to use the concept knowledge flow (KF). This solution will allow to reconcile all inconsistent interpretations of both terms, those who clearly distinguish between KS and KT and those who do not see this difference. If KS is a set of all knowledge sharing activities, and KT is a set of all knowledge transfer activities, than KF is the sum of all these activities. The results of previous studies, regardless of the adopted definitions, can be analyzed in such approach. An analysis of the general concept of knowledge flow (KF) understood as the sum of all KS and KT activities will also allow for the integration of research results on the exchange of knowledge, especially at the inter-organizational level.

## 5. CONCLUSION

Knowledge sharing and knowledge transfer are often a subject of research as a main part of knowledge management, however in the context of networking they are studied relatively rarely. Fragmentation of empirical knowledge indicates the need for thorough research in this topic. Definitions inconsistency was identified as the main reason for a small amount of research and as a significant barrier to the development of research in this area. The terms KS and KT are sometimes used synonyms, sometimes they are taken as similar processes, and sometimes they are strongly distinguished. As a consequence, research results are inconsistent. It was proposed to use the term knowledge flow, which includes both knowledge sharing and knowledge transfer. Such a more general view may allow to gather the current research results into a coherent whole, despite the differences in definitions. However, by generalization some of the details can be omitted. The research has some limitations. First of all, the author's attention was focused on the semantic analysis of the concepts discussed and the resulting consequences. In the future, attempts to analyze the inter-organizational knowledge flow as a general concept combining IKS and IKT should be undertaken.

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# USER ORIENTATION AS A RESOURCE TO CREATE AN EFFICIENT SCORECARD

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## **ABSTRACT**

*Under fierce competition organizations need to shape a high-quality system of indicators which adequately characterize their activities. It's crucial to create a set of indicators clearly characterizing the state of affairs of the company, and a logical assessment system that can help interested users. The approaches to developing indicator systems which characterize the activities of an organization are driven by the influence of many factors. The bias towards the internal users interests and the emphasis on financial information have become outdated. The article demonstrates various approaches to creating an indicator system, identifies their capabilities and limitations in use. The article focuses attention on the consequences of choosing irrelevant indicators that limit the stakeholders' awareness. The indicators analysis of financial and nonfinancial statements in terms of external and internal users interests enabled us to identify problems and challenges for the approaches development to create efficient indicator systems.*

**Keywords:** *Indicator system, Financial indicators, Nonfinancial information, Stakeholder*

## **1. INTRODUCTION**

All countries are experiencing changes in the economy, both at the macro and micro level. Turbulence increases the area of uncertainty and possible risks. Organizations operate in a constantly changing external and internal environment. This exerts a significant impact on the approaches used in the formation of the system of indicators. A system of indicators is one of the tools for forming information support for the organization's activities; a set of interrelated indicators used to manage the organization's activities. The indicator system plays a huge role for both external and internal users. In the first case, it can act as a reputational (marketing) tool, in the second - as a management and control tool. The variety of approaches to the formation of indicator systems, the development of information preparation tools, the expansion of the range of users, the organization's performance targets, and many other factors play a significant role, but as practice shows, not all changes and innovations solve the tasks set and meet the needs of the external environment.

## **2. REVIEW OF SCIENTIFIC PUBLICATIONS IN THE RESEARCH AREA**

Approaches to the formation of a system of indicators as an element of information support are studied by many scientists. In this study, we will look at general approaches to the formation of indicator systems, without taking into account the size of the organization, industry specifics, the business model used, etc. In Russia, one of the most common approaches to the formation of a system of indicators was the method of comprehensive economic analysis aimed at studying all aspects of the organization's activities. Bakanov M. I. and Sheremet A. D. singled thirteen blocks of indicators in their works: overview of general indicators; analysis of organizational-technological level, social, natural and external economic manufacturing environment; analysis of durable equipment; analysis of material resources; analysis of labor

service and wages; analysis of products; cost analysis; capital analysis; analysis of turnover; financial performance analysis; profitability analysis; financial analysis; aggregate performance evaluation [2]. This approach was focused on internal users and characterized in a greater extent the internal environment of the organization. The assessment of the external environment was not intended. In the transition to a market economy, managers needed new indicators that characterized the market, sales, competitors, etc. The authors' methodology could be applied only after adaptation to the new conditions of organizations' activity. The advantages of this approach are: a formalized approach; functional relationship between indicators, a universal set of indicators. The limitations of this system include: a retrospective approach, ignoring the influence of external factors. American scientists R. Kaplan and D. Norton developed a balanced system of indicators, in which it was proposed to transfer the strategy into real indicators in the context of four components: finance, customers, internal business processes, training and growth [6, 7]. The key feature of this approach was the use of both financial and non-financial indicators. The limitations of this system include the lack of formalized recommendations for implementation, a subjective approach to the selection of indicators, and difficulties in identifying the functional relationship between indicators. The above-listed approaches are considered to be the author's methods. Of course, there are many more of them than considered in the study. For example, common approaches include Tableau de bord [4], Skandia navigator, and others. The advantages and limitations of these approaches are discussed in many publications, the authors make comparisons, identify similarities and differences [10, 11]. In addition to the author's developments, there are regulatory requirements for mandatory user information, the so-called regulatory approach. As part of this approach, systems of indicators can include: accounting statements, integrated reporting, and annual reports of organizations. For example, accounting is also a system of indicators, a universal tool that reflects the actual state of affairs of the organization through the prism of financial indicators. The expansion of the range of stakeholders has become an incentive for the preparation and publication of integrated reports of organizations. Integrated reporting is a system of indicators, a tool for informing a wide range of stakeholders. In addition to financial information, integrated reporting includes information about human capital, sustainable development, and other aspects of the organization's operations. The indicator systems formed within the framework of the normative approach are aimed at both external and internal users. Sets of indicators, depending on the type of reporting, are fundamentally different. After analyzing the existing research, we formulate the research hypothesis and determine the limitations. The research hypothesis is that the focus on stakeholders results in the evolution of the system of indicators as an element of information support. Limitations of the study. The hypothesis was empirically evaluated using the example of annual reports of joint-stock companies in Russia. The difference in approaches to the formation of financial statements and annual reports in different countries does not allow for a comparative analysis.

### **3. RESEARCH OF INDICATORS SYSTEMS DISCLOSED IN THE ANNUAL REPORTS OF RUSSIAN ORGANIZATIONS.**

Stakeholders or those interested in the organization's activities can be grouped according to various criteria: external and internal to the organization, with or without financial interest; financial and non-financial stakeholders. For the purposes of business analysis, V. Barilenko identifies five classification features [3]:

- the degree of dependence on the organization;
- the degree of influence on the organization;
- degree of participation in the organization's activities;
- responsibility of the organization;
- sign of representation.

In another approach, stakeholders are grouped according to two criteria: the ability to pose a threat to the company and the ability to cooperate with it. According to this approach, each of the parties can be classified into four types of stakeholders: supportive, mixed blessing, non-suppressive, and marginal stakeholders [12]. The focus on stakeholders is at the forefront in the formation of indicator systems. Depending on the purpose of forming a system of indicators, priority may be given to a specific stakeholder, or otherwise the organization must adhere to the principle of information neutrality. Let's consider the indicators presented in the annual reports of Russian organizations. Joint-stock companies in Russia are both required by law to disclose a certain amount of information, and have the right to increase the amount of information provided in order to inform users. As part of the study, we will examine the annual reports of three competing organizations operating in the same industry. The study period lasts from 2009 to 2019. After studying the annual reports of joint-stock companies, we saw two approaches to providing information. Two organizations submitted an annual report with integrated reporting elements, while the third organization provided minimal volume of information. Analysis of annual reports of major corporations revealed a constant variability of reports. From year to year, the report volume, sections and their structure (from detailing to consolidation), and a set of indicators change. The volume of reports changes only towards increasing for all three organizations. (table 1). The table shows the difference in approaches: as already mentioned, organizations #1 and # 2 disclose additional information, while organization # 3 has a minimum report volume, since the information is presented to the extent required by law.

*Table 1: Comparison of the volume of annual reports*

Organization	№1		№2		№3	
	2009	2019	2009	2019	2009	2019
Report volume (pages)	104	136	54	159	33	41

Let's pay attention to the organization's annual reports #1 and #2 for 2009-2010. As can be seen from the table, there is a tendency to enlarge sections. If in 2009 the number of sections for the two companies ranged from 13-14, in 2019 the sections were enlarged and their number was reduced to 5 (table 2).

*Table following on the next page*

Table 2: Comparison of the structure of annual reports

Organization №1		Organization №2	
2009 г.	2019 г.	2009 г.	2019 г.
1. About the company	1. Appeal of the Chairman of the Board of Directors	1. Legal statement	1. About the Company
2. Footprint	2. Appeal of the General Manager	2. Historical reference	- the Company today
3. Appeal of the Chairman of the Board of Directors	3. Company information:	3. Appeal of the President to the Stakeholders	- Key events
4. Appeal of the General Manager	-key indicators	4. Standing of the company of the cellular communication market	- Appeal of the Chairman of the Board of Directors
5. Performance key indicators	-involving the opportunities	5. Company development prospects	2. Management report
6. The biggest stories of the year	-our actives and resources	6. Company development strategy (priorities)	- Appeal of the President
7. General Manager Board's report	-activity footprint	7. Report of the Board of Directors on the results of the company development in the key priority areas	- business model
8. Financial results overview	-history	8. The biggest stories of the year	- our markets
9. Risk management	- The biggest stories of the year	9. Company operating results for the year 2009	- insight to the future
10. Corporate management	4. Strategic report	10. Stakeholders' equity and capital issues	-new business tracks
11. Sustainable development	-market overview	11. Corporate management	-new strategy
12. Annexes	-digital strategy in action	12. Financial results	-business overview
13. Consolidated financial report	-business model	13. Main risk factors	- financial overview
	-operational results	14. Personnel and social policy	-risk management
	-financial results		-compliance and ethical behavior culture
	5. Sustainable development		3. Corporate management
	-approach to sustainable development		- report of the Board of Directors
	-HR management		-Management system
	-safety and health protection		-Management structure
	-social responsibility and charity		- Stakeholders and Investors interactions
	-procurement activities		-capital and security
	-ethics and human rights		-corporate management system development
	-anti-corruption		4. Sustainable development
	-environmental protection		-sustainable development and social responsibility approach
			-sustainable development management system
			-our personnel
			-social investments
			-environmental protection activities
			-delivery chain stability
			-information security and protection

Despite the fact that stakeholders are the main factor influencing the formation of a system of indicators, not all organizations disclose their list in their reports. Of the three organizations, over a ten-year period, only organization # 1 indicated interested parties in the report for 2019: clients, investment community, employees, industry community, business partners, the state,

and local communities. Next, we consider how the composition and grouping of indicators changed. The annual reports (except for organization # 3) presented indicators by the following groups: key, financial, operational, etc. We focus on the choice of financial indicators. Organization # 1 presented a larger number of indicators, the number varied over the period from 17 to 12 indicators; organization #2 showed a more stable set of seven indicators.

*Table 3: Overview of financial indicators*

Organization №1		Organization №2	
2009	2019	2009	2019
1. Sales revenue	1. Sales revenue	1. Sales revenue	1. Sales revenue
2. OIBDA*	2. OIBDA	2. OIBDA	2. OIBDA
3. Profitability	3. Profitability	3. Margin	3. Debt structure (in foreign currency)
4. Net profit	OIBDA	OIBDA	4. Net debt/ LTM OIBDA
5. Net profit margin	4. Net profit	4. Operating profit	5. Capital Expenditure
6. Income structure	5. Net profit margin	5. Operating margin	6. Debt payment schedule
7. Dynamics of revenue	6. Capex	6. Net income / net loss	7. Capital expenditures structure
8. Liquidity, financial stability	7. Capex / Sales revenue	7. Sales revenue structure	
9. LTM OIBDA	8. Free cash flow for shareholders		
10. Agregate debt	9. Net debt		
11. Agregate debt / LTM	10. Net debt / OIBDA		
12. Agregate debt / OIBDA	11. Dynamics of revenue		
13. Capital Expenditure	12. Debt structure		
14. LTM Capex / Operating Cash Flow			
15. LTM Capex / Revenue			
16. Debt payment schedule			
17. Debt structure (in foreign currency)			

*where: OIBDA - Operating Income before Depreciation and Amortization, LTM OIBDA - Last Twelve Months Operating Income before Depreciation and Amortization, LTM - Last Twelve Months.*

Key indicators cannot be compared because the report structure and section names have changed: key indicators, performance results, operating results, our results, etc. After studying thirty annual reports of three large companies over ten years, the following trends were identified:

- increasing the volume and structure of the information provided;
- expanding the range of users and indicators used;
- use of both financial and non-financial indicators;
- shifting the focus from a retrospective assessment to an assessment of the organization's future development;
- description of business models and its formalization through a system of indicators.

#### 4. CONCLUSION

Summing up, we can conclude that the information support of organization's activities is subject to changes. The system of indicators, as the main tool for informing, is not always formed within the framework of a single approach. The annual reports of Russian organizations demonstrated the use of both a normative approach, where information was provided only to the extent stipulated by law, and a mixed approach, where the volume of information was expanded, for example, by using an approach to the formation of integrated reporting. The role of stakeholders in changing the indicator systems is significant. Moreover, organizations have begun to disclose the list of stakeholders in their reports. Thus, using the example of annual reports available to external users, we considered the options for grouping indicators (financial, operational, key, etc.), and found that the most stable are financial indicators, since their set has almost not been subjected to changes over a ten-year period. While groups of key operational indicators were affected by changes to the greatest extent.

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# ADOPTING BEST PRACTICES TO IMPROVE CUSTOMER EXPERIENCE MANAGEMENT

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## **ABSTRACT**

*The companies invest large resources in the application of digital technologies for business improvement and greater competition. A new digital economy is developing dominantly based on the information and service sector and their influence on the GDP. Managing the customer experience becomes a new challenge for businesses. The purpose of the paper is to evaluate how companies adopt best practices for the customer experience management in order to accomplish the better business results such as desired customer expectations, customer retention and acquisition, greater market competition.*

**Keywords:** *Digital Economy, Best Practices in Customer Experience Management, Impact of Customer Experience Management on Business Performance, Maturity of Customer Experience Management*

## **1. INTRODUCTION**

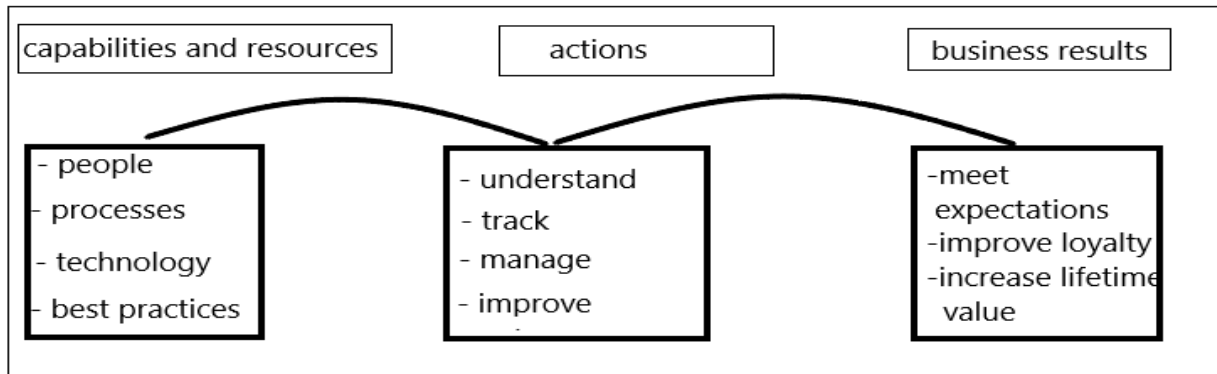
In today's digital economy, where the information and service sectors make up the largest share in the GDP structure, the companies should invest in the online customer experience. The business strategy of the companies is focused to satisfy their customers in order to achieve a successful business results. The customer experience are all interactions and expectations that a customer has through the business with the company. The purpose of the paper is to evaluate how companies adopt the customer experience management best practices to accomplish the business results such as customer expectations, customer retention and acquisition, greater market competition. More specifically, the paper describe results of the research related to the case of a particular financial institution and its adoption of the customer experience management best practices. Chapter 2 describes the customer experience management model including the best practices. The research was conducted according to the Forrester's customer experience maturity model which consists of 6 key areas and 30 practices (Burns, 2016). An interview with managers was conducted for each practice within each key area and documents were collected to evaluate the maturity of the adoption of any practice of the customer experience management within the bank. Furthermore, Chapter 2 describes the importance of each practice and specify the list of the research questions. Chapter 3 describes the results of the conducted assessment using the Forrester's model. The purpose was to evaluate how the bank adopt the best practices for the customer experience management and what improvements are needed. The same model can be applied to any other institution or company depending on their business strategies or business practice in general.

## **2. CUSTOMER EXPERIENCE MANAGEMENT**

Before starting to define customer experience management, it is important to note and explain the term "digital business transformation" which is of crucial importance for the business world. Some of the advantages are that digital strategy drives digital maturity, the strategy lies in its scope and objectives, which means that in the most mature organizations of digital strategies

are developed with an eye on transforming the business, employees want to work for digital leaders, taking risks becomes a cultural norm and the digital agenda is led from the top (Kane, et.al., 2015). The customer experience management is a modern management approach focused on understanding, tracking and improving the customer experience. There are different definitions of this term in the literature. The generic customer experience management model is shown in Fig.1 (Batroff, 2016). The customer experience management includes the best practices, people and technology to achieve the best business results such as financial results, customer satisfaction, customer loyalty, internal business excellence and employee experience.

*Figure 1: Customer Experience Management Model*



The customer experience management focuses on the customer understanding and designing the customer's brand experience, defines the strategy and provides resources for its implementation. The customer experience management measures and tracks the customer experience to enhance the design of the customer's brand experience. Furthermore, it improves processes that affect the customer experience, implements new technologies, and develops the culture of the entire organization in delivering the desired customer experience. The customer experience management helps companies monitor, analyze and improve the customer interaction with their brand in order to increase total satisfaction. Furthermore, in order to manage customer experience more successfully, it is important to invest more effort and time in understanding customer behavior and design the customer experience from the customer's perspective, use digital channels to improve customer reach and engagement, make good use of customer data and have a scientific approach to decision making based on analytics and to know how to use digital technologies in combination with their valuable existing assets (Bonnet, McAfee and Westerman, 2014). Also, in order to have and cherish more loyal and proactive customers it is important to seek opportunities in an era of constant customer connectivity focusing on two complementary activities: reshaping customer value propositions and transforming their operations using digital technologies for greater customer interaction and collaboration (Berman, 2012). Throughout the history of the creation of customer experiences, companies have come to a point where is no longer interesting and enough only to gain customer's satisfaction and loyalty, but to embed the customer and customer data deeper into the organization and focus on redesigning customer experience from customer perspective. Also, from 2010s to nowadays it is important to recognize value of nonpurchase interactions, incorporate positive and negative attitudes, emotions, and behaviors, introduce to conceptual platform to incorporate social media and more clearly recognize the customer's role in the experience (Lemon and Verhoef, 2016). The Balanced Scorecard (BSC) method can be applied in the planning and implementation of the customer experience management. An example of BSC to enhance the customer experience as one of the strategic theme is shown in Table 1.



Table 1: *Balanced Scorecard – ENHANCE CUSTOMER EXPERIENCE*

Balanced Scorecard – ENHANCE CUSTOMER EXPERIENCE		
Perspective	Strategic objectives	Metrics (KPI's)
FINANCIAL	Increase revenue growth	Revenue growth rate
CUSTOMER	Improve customer experience	Customer satisfaction Customer retention
INTERNAL BUSINESS	Optimize sales channels Improve offering selection Improve branded services	Process throughput time % sales of new products Brand awareness score
LEARNING AND GROWTH	Partners with the customers Improve employee skills Integrate key technologies	% trained in customer partnership Employee satisfaction Employee retention Number of new customer databases; Costs of integration of new technologies

## 2.1. Customer experience management best practices and research questionnaire

The Forrester's customer experience maturity model helps within these three business scenarios (Gill and VanBoskirk, 2016): (1) The model assesses foundational aspects that matter to a company's overall digital transformation, such as executive support for digital strategy, digital staff resourcing, how success is measured, and business functions/IT relationship effectiveness; (2) The model also reviews capabilities specific to a firm's digital marketing function, like how well digital supports brand strategy; (3) The model further evaluates how digital supports sales and service interactions, including touchpoint integration and technology sophistication. The research was conducted according to Forrester's customer experience maturity model which consists of 6 key areas and 30 practices (Burns, 2016). All of them are listed in Table 2. The Forrester's customer experience model consists of these key areas: customer understanding, prioritization, design, delivery, measurement and culture. Each of those key areas includes 5 best practices (marked as 1.1., 1.2., etc.) which are described in Table 2. For each of the 60 best practices according to the Forrester's model, the research question was addressed to the business and IT managers within the bank, employees and customers. These research questions are also listed in Table 2. The results of the conducted assessment according to these research questions are described in the Chapter 3. The results show the extent to which the bank adopts the best practices for the customer experience management. In accordance with the defined questionnaire, the authors collected a lot of information and documents for evaluation purposes within the bank. This mainly refers to procedures, defined responsibilities, reports, measurements, culture and awareness of the importance of the customer experience.

Table 2: *Customer experience management best practices and research questions*

	Key area	Purpose	Best practices	Research questions
1.	Customer understanding	Ensure that employees have a complete, accurate, and rich sense of the customers and the experience they want to have with the company.	1.1. Collect qualitative feedback from customers about their interactions with the bank.	Are you looking for qualitative feedback from clients on their interactions with the bank?
			1.2. Analyze unstructured data for insight into customer needs and expectations.	Do you analyze unstructured data (e.g. call transcripts, social media posts) for insights into customer needs and expectations?
			1.3. Analyze customer analytics to identify patterns and trends in customers' behavior.	Do you use customer analytics to identify the behaviour patterns and trends of the bank's clients?
			1.4. Conduct qualitative research to understand customers and their unmet needs.	Are you conducting open quality research that deepen customer understanding and explore their unmet needs?
			1.5. Collect accurate and complete information about customers to make better decisions on the design and delivery of the customer experience.	Do you consolidate everything that the bank knows about clients in the so-called "Client Profiles" to get a picture of who your customers are?
2.	Prioritization	Focus limited resources on work that will advance the most important parts of the experience for	2.1. Assess the impact of the customer experience management on the business goals.	Do you assess the impact of managing customer experiences on business goals? (e.g. income, growth)
			2.2. Identify the most important customer groups, the core customer experience.	Do you identify the most important customer groups for and prioritize aspects of the

	Key area	Purpose	Best practices	Research questions
		the most important customers and drive business results.	2.3.Assess the impact of all projects and decisions within the banking ecosystem on the core customer experiences. 2.4.Reject or rework projects that would hurt core experiences in unacceptable ways. 2.5.Define priorities in managing the customer experience.	customer experience in order to achieve better business results? Do you evaluate the impacts of different projects and decisions on the customer experience given the complex digital financial ecosystem? Do you reject or rewrite projects that might harm the assessment of the customer experience in unacceptable ways? Do initiatives to improve customer experience align with the management priorities of customer experiences?
3.	Design	Translate the company's customer experience vision into detailed blueprints that describe what employees need to do to deliver the right experience to the customers every time.	3.1.Translate the vision of the customer experience management into the plans that describe how to provide customers with the right experience. 3.2.Use a human-centered process to design/update each of the company's core customer experiences. 3.3.Include partners from across the customer experience ecosystem in the design process. 3.4.Validate the design/update of each core experience aligned with the customer experience vision. 3.5.Use a human-centered process to design/update the ecosystem that's needed to deliver the core experiences.	Do you document a vision of managing customer experience and is it understandable to all employees in the bank? Do you use customer centered design and improve your customer experience in the process? (empathy, agility, iteration, simplicity) Do you include partners from across the financial ecosystem in design and improvement of the customer experience? Are you verifying that the design/improvement of each customer experience is aligned with the customer experience management vision? Do you use customer centered design and improve the entire financial ecosystem for the purpose of delivering basic customer experiences?
4.	Delivery	Manage day-to-day operations so that customer experiences match what designers intended and drive business results.	4.1.Define the specific activities that every role must do to deliver or enable core experiences as designed. 4.2.Train and coach frontline employees on how to execute the part of the customer experience that they personally deliver. 4.3.Provide tools that help employees deliver core experiences the right way every time. 4.4.Validate that digital and physical assets deliver or enable experience designs accurately. 4.5.Monitor customer's feedback and customer experience metrics to identify that actual experiences do not match customer experience design.	Do you define the activities by which employees understand what their role is in delivering/securing customer experience by design? Do you train and train staff to perform part of the management of customer experiences for which they are personally responsible? Do you provide tools that help employees deliver the customer experience every time in the right way (e.g. templates, work automation, etc.)? Do you acknowledge that the digital and physical assets used by customers ensure good customer experiences by design design? Do you monitor customer feedback and metrics of the customer experience management process for the purpose of identifying bad experiences, i.e. that actual experiences do not match the default design?
5.	Measurement	Quantify the overall level of the customer experience quality as customers perceive it, by the degree that experiences have the characteristics that the company intended (e.g., ease, caring), and by the impact that customer experience has on related business performance.	5.1.Measure customers' perception of core customer experiences. 5.2.Measure events and attributes of the customer interactions that are likely to affect customer perceptions. 5.3.Measure the alignment between actual customer experiences with must-have characteristics for each core experience. 5.4.Design measurement communications so that they are useful for employees. 5.5.Report customer experience quality metrics to governing bodies.	Do you measure the overall perception of the bank's clients about basic customer experiences? Do you measure the events and attributes of an interaction with customers that can affect their perception? Do you measure how much actual customer experiences correspond to the required characteristics for each predefined experience? Do you define measuring mechanisms that will be useful and easy for bank employees in customer experience activities? Do you report to the top management on the quality of management of customer experiences for improvement purposes?
6.	Culture	Employees in mature companies manage the customer experience because it is the right thing to do, not just because they are told to. Customer-centric beliefs and behaviors are ingrained, and executives make sure that they stay that way.	6.1.Assess the empathy and customer centricity of job applicants. 6.2.Educate employees about the customer experience vision and their role in the ecosystem. 6.3.Perform rituals and routines that keep customers and customer experience top of mind for employees. 6.4.Formally reward employees for delivering or enabling good customer experience. 6.5.Informally recognize employees who deliver or enable good customer experience.	Do you assess empathy and the focus of potential employees in developing and providing customer experience? Do you educate employees about clients, the customer experience vision, financial ecosystem as well as their role in this system? Do you develop a culture and strengthen employees' awareness of the importance of managing customer experiences? Do you formally reward employees for delivering or providing good customer experience (e.g. bonuses, promotions)? Do you informal reward employees who deliver or provide good customer experience (e.g. employee of the month, email recognition)?

### 3. ADOPTING BEST PRACTICES TO IMPROVE CUSTOMER EXPERIENCE MANAGEMENT IN THE BANK: ANALYSIS OF RESULTS

This chapter describes the results of the conducted assessment that show the extent to which the bank adopts the best practices for the customer experience management, previously described in Chapter 2.1. According to the research questions (shown in Table 2), an interview was conducted with business and IT managers, employees and customers within the bank for the purpose of this assessment. 6 tables were created for each of the 6 key areas (Customer Understanding, Prioritization, Design, Delivery, Measurement and Culture). Each practice within these key areas is described through the maturity levels (0-5) depending on the percentage of its implementation within the institution. For example, the maturity level 0 means that the practices are not implemented (0%), the level 1 means that the practices are weak implemented and contain ad hoc activities (1-20%), the level 2 means that the practices are implemented within the institution but not standardized (21-40%), the level 3 means that the practices are well defined and implemented (41-60%), the level 4 means that the practices are fully integrated within the institution (61-80%) and the level 5 means that the practices are fully sophisticated and improving (81-100%). The actual level of implementation of each practice was assessed as well as the average value for the whole key area. In addition, the improvements for the customer experience management within the bank are also defined with regard to the existing level of the assessed maturity and implementation of the customer experience management best practices. Due to the scope of the paper, the authors did not have the ability to show all 6 tables. The evaluation results for one of the six key areas, *Prioritization*, are shown in Table 3. The overall maturity of the bank in adopting the customer experience management best practices is shown in Graph 1 (Kozina and Dusper, 2019).

*Table 3: Results of the evaluated maturity of the customer experience management best practices within the key area: Prioritization*

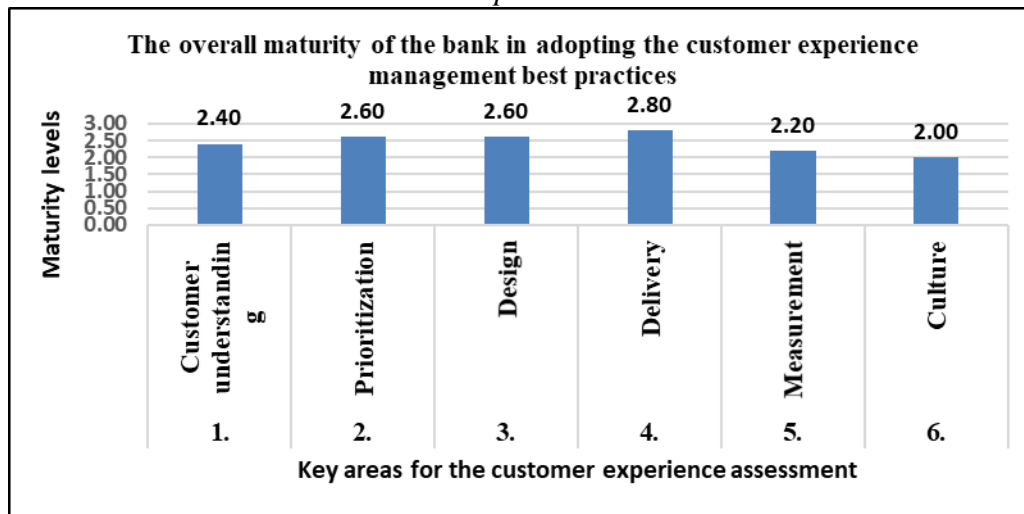
		Adopting customer experience management best practices within the bank					IMPROVEMENTS
Key area	Best practices	ACTUAL STATE					
		Level 1	Level 2	Level 3	Level 4	Level 5	
PRIORITIZATION	<b>2.1. Assess the impact of the customer experience management on the business goals</b>	Procedure of the customer experience management effectiveness assessment does not exist in the bank. There are ad hoc activities.	Procedure of the customer experience management effectiveness assessment is mostly defined in the bank but it is not standardized. Some responsibilities are defined and the documentation is incomplete.	Procedure of the customer experience management effectiveness assessment is fully defined and standardized in the bank. Responsibilities are fully defined. There is defined documentation.	Procedure of the customer experience management effectiveness assessment is continually improving.	Procedure of the customer experience management effectiveness assessment is fully integrated within the bank and becomes the best practice.	Integration of customer experience management across the banking ecosystem is needed in order to achieve the better business results. Furthermore, it is necessary to provide a unique database.
	<b>2.2. Identify the most important customer groups, the core customer experience, and the characteristics that each core</b>	Procedure of identifying the most important customer groups does not exist in the bank. There are	Procedure of identifying the most important customer groups and is mostly defined in the bank but it is not standardized. Some responsibilities	Procedure of identifying the most important customer groups and is fully defined and standardized in the bank. <b>Responsibilities</b> are fully defined.	Procedure of identifying the most important customer groups and is continually improving.	Procedure of identifying the most important customer groups and is fully integrated within the	In need of specialized segmentation of customers to identify the most important ones; more efficient analytics to identify the most valuable customers.

		Adopting customer experience management best practices within the bank					IMPROVEMENT S
Key area	Best practices	ACTUAL STATE					
		Level 1	Level 2	Level 3	Level 4	Level 5	
	<b>experience must have</b>	ad hoc activities.	are defined and the documentation is incomplete.	There is defined <b>documentation.</b>		bank and becomes the best practice.	
	<b>2.3. Assess the impact of all projects and decisions within the banking ecosystem on the core customer experiences</b>	Procedure of assessing project impact on core customer experiences does not exist in the bank. There are ad hoc activities.	Procedure of assessing project impact on core customer experiences is mostly defined in the bank but it is not standardized. Some responsibilities are defined and the documentation is incomplete.	Procedure of assessing project impact on core customer experiences is fully defined and standardized in the bank. Responsibilities are fully defined. There is defined documentation.	Procedure of assessing project impact on core customer experiences is continually improving.	Procedure of assessing project impact on core customer experiences is fully integrated within the bank and becomes the best practice.	The procedure of assessing project impact on core customer experiences should be continuously measured and improved. Reduction of documentation for performing daily transactions is required.
	<b>2.4. Reject or rework projects that would hurt core experiences in unacceptable ways</b>	Procedure of project rejection or rework does not exist in the bank. There are ad hoc activities.	Procedure of project rejection or rework is mostly defined in the bank but it is not standardized. Some responsibilities are defined and the documentation is incomplete.	Procedure of project rejection or rework is fully defined and standardized in the bank. Responsibilities are fully defined. There is defined documentation.	Procedure of project rejection or rework is continually improving.	Procedure of project rejection or rework is fully integrated within the bank and becomes the best practice.	Procedure of project rejection or rework should be standardized.
	<b>2.5. Define priorities in managing customer experience</b>	Procedure for defining priorities in managing customer experience does not exist in the bank. There are ad hoc activities.	Procedure for defining priorities in managing customer experience is mostly defined in the bank but it is not standardized. Some responsibilities are defined and the documentation is incomplete.	Procedure for defining priorities in managing customer experience is fully defined and standardized in the bank. Responsibilities are fully defined. There is defined documentation.	Procedure for defining priorities in managing customer experience is continually improving.	Procedure for defining priorities in managing customer experience is fully integrated within the bank and becomes the best practice.	Procedure for defining priorities in managing customer experience should be continuously measured and improved.

*AVERAGE VALUE FOR PRIORITIZATION: 2.6*

*Graph following on the next page*

Graph 1: The overall maturity of the bank in adopting the customer experience management best practices



#### 4. CONCLUSION

The overall score of the estimated maturity of the customer experience management best practices within the bank shows the level between 2 and 3. What does it mean? The best practices are mostly implemented within the bank. However, the practices are not fully defined since the activities are not integrated, the responsibilities are partially defined, the documentation is incomplete, and the measurement mechanisms for improving mostly are not defined. For example, the key areas such as culture and measurements show the worst results. This means that it is necessary to increase employee awareness of the importance of the customer experience management. Furthermore, the bank should improve the activities related to measuring the quality of the customer experience management, the activities related to measuring the events in the customer interactions affecting their perception, as well as measurements that will be helpful to employees in the activities of providing the customer experience. There are many models in the literature to assess the maturity of the customer experience management. Each of them has its own advantages and disadvantages. The Forrester's customer experience model can be used by any institution or company depending on its goals and capabilities. The applied model is useful in providing best practices and guidelines to enhance the customer experience management. The model can be combined with other models to evaluate the maturity of the customer experience management.

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# INCREASING THE RESILIENCE OF SMALL AND MEDIUM-SIZED ENTERPRISES WITH THE APPLICATION OF PROJECT MANAGEMENT PRINCIPLES WITH REGARD TO RISK MANAGEMENT

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## ABSTRACT

*Risk management as an integral part of project management increases the possibility of achieving project goals and the overall success of projects and business. Project management in large enterprises is usually based on current standards, but in small and medium-sized enterprises it is often implemented only partially in the form of processing and realization of orders without a standardized approach. The same approach is taken to the issue of risk management in projects, whether they are innovative, development projects, implementing changes or new business plans. Business failure due to poor planning can be avoided, but it is necessary to develop an adequate business plan, respectively a feasibility study of planned changes, which are usually of a project nature and should therefore include an adequate risk assessment and risk management. Recent events have exacerbated the need to prevent crises due to the negative effects of internal or external factors in the business environment. The COVID 19 pandemic only emphasized the importance of risk management and critical processes in both projects and enterprises, because if a enterprise knows its risks and opportunities, it can also respond flexibly to unpredictable changes in the business environment and their consequences. In general, enterprises that underestimate planning, they plan failure and especially if enterprises underestimate risk management, whether in optimization, restructuring, innovation or development activities. The aim of the article is to point out the importance of risk management in project management as a tool for increasing the resilience of business in small and medium-sized enterprises.*

**Keywords:** *Enterprise, Project management, Resilience, Risk management*

## 1. INTRODUCTION

Risk management, especially in the area of managing small and medium-sized enterprises (SMEs), is proving to be an important challenge. It is related to performance, it is focused on the growth of the enterprise and serves to prepare a better basis for decision-making. The inclusion of risk aspects in the decision-making process is essential if enterprises are to achieve their goals. SMEs make a significant contribution to the economies of many countries. On the one hand, they are seen as a source of flexibility and innovation, but on the other hand, SMEs are considered high-risk enterprises. The main reasons for the high vulnerability of SMEs to risks can be defined, e.g. outdated technology, low level of experience, insufficient capital, lack of managerial capacity, low utilization of existing capacities and insufficient financial security of resources. For SMEs, the introduction of a risk management system is essential for their survival, as this affects their ability to continue operating (Gorzen-Mitka 2020; Klucka 2020; Koval'ová 2018; Luskova 2019; Oncioiu 2011; Sventeková 2013).



## 2. APPLICATION OF PROJECT MANAGEMENT PRINCIPLES WITH REGARD TO RISK MANAGEMENT IN SMALL AND MEDIUM-SIZED ENTERPRISES

Risk management as an integral part of project management increases the resilience of projects and project activities, the possibility of achieving project goals and the overall success of projects. Project management in large enterprises is usually based on current standards, but in SMEs it is often implemented only partially in the form of processing and implementation of orders without a standardized approach. The issue of risk management in projects is also approached, whether they are development projects or new business plans (Holla 2017; Hudaková 2018). In international markets, there is a growing need to implement functional risk management that minimizes or eliminates risks and damages to the enterprise. International projects are therefore riskier than projects implemented in domestic markets, taking place in environments characterized by economic, social, legal, political and cultural differences that can significantly affect the financial results of SMEs. In order to gain a competitive advantage and stay in the market, SMEs must constantly adapt, not only by implementing the latest available technology, but also by creating their own innovations aimed at increasing the profitability and sustainability of the business. Changing the business model by introducing technological and sustainable components exposes SMEs to high risk (Lacinak 2017; Virgelova 2020; Tohanean 2020; Hudakova 2019). As mentioned in the introduction, SMEs are the driving force of the state economy and make up the majority of jobs in the Slovak Republic (SR). With regard to the accession of the SR to the European Union (EU), the SR has adopted the definition of SMEs used in the EU. If we are based on European legislation, it is first necessary to define an enterprise. An enterprise is considered to be any entity that carries out an economic activity, regardless of its legal form (Malé a stredné, 2019, 2019; Havierniková 2017). The legislation defines micro-enterprises and SMEs as a group of enterprises which:

- employ less than 250 people,
- their annual turnover does not exceed 50 million €,
- their total annual balance sheet does not exceed 43 million €.

The individual size categories of SMEs are determined according to the limit values of the above criteria, while we distinguish the three categories listed in Table 1.

	Number of employees	Annual turnover	Balance sheet total
Micro-enterprise	less than 10	less than or equal to 2 million €	less than or equal to 2 million. €
Small enterprise	less than 50	less than or equal to 10 million €	less than or equal to 10 million €
Medium enterprise	less than 250	less than or equal to 50 million €	less than or equal to 43 million €

*Table 1: Size categories of micro, small and medium enterprises  
(Source: based on Malé a stredné, 2019)*

Based on the development of the number of established and defuncted SMEs in the SR, a net increase in SMEs were recorded in 2019. In a year-on-year comparison, the amount of net growth of SMEs increased by 11,1% to 28 786. This positive trend was mainly due to the historically highest number of newly established SMEs (84 883). The gradual increase in net increment, which can be observed in the last three years, is also positive. At the same time, the net increase in 2019 reached a similar level last in 2008. The development of the net increase in SMEs in the SR in 2013 - 2019 is shown in Table 2.



Indicator	2013	2014	2015	2016	2017	2018	2019
Established enterprises	73 006	59 017	52 646	58 838	65 404	78 075	84 883
Defunct enterprises	68 031	55 906	42 938	53 868	52 599	52 168	56 097
Net increment	4 975	3 111	9 708	4 970	12 805	25 907	28 786

Table 2: Development of net increment of SMEs according to data from the Register of Organizations of the Statistical Office of the Slovak Republic  
(Source: based on Malé a stredné 2020)

By comparison, according to a study by Industry Canada (Ward, 2019) in innovation, science and economic development, thousands of enterprises leave the Canadian market each year. Business failure statistics show that about 96 % of small enterprises (1-99 employees) that have entered the market will survive one full year, 85 % will survive three years, and 70% will survive five years, e.g. in Canada, approximately 7 000 businesses defunct each year. Micro-enterprises (enterprises with 1 to 4 employees) have a slightly lower rate of business failure than other small enterprises. After five years of business, 70, 4% of micro-enterprises survived, compared to 66.9% of other small enterprises. The main reason for business failure is usually inexperienced management. Bankruptcy managers do not have the experience, knowledge or vision to do business. Poor planning is also a common reason for small enterprises to fail. In addition, it should be borne in mind that the numbers of defunct enterprises will be completely different in the year of the COVID 19 pandemic. The number of new enterprises that have not yet managed to create reserves to cover the interruption of operations and thus found itself often in existential problems will increase. According to the Analýza malých a stredných (2020), 8,9% of active SMEs in the SR had to close their operations in a period of extraordinary situation. Figure 1 shows the most impacted SMEs industry in the SR during the first wave of the COVID 19 pandemic, the data are from March 2020.

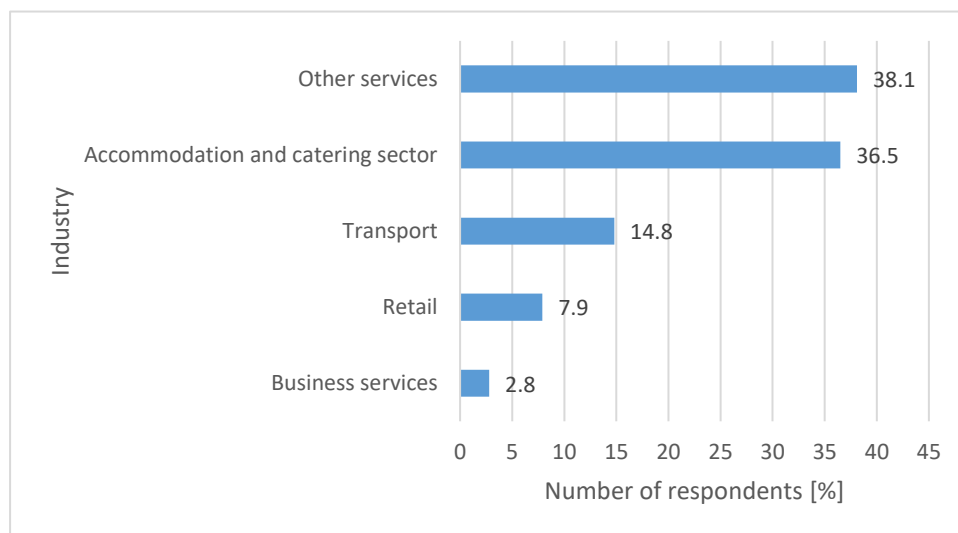


Figure 1: The most impacted SMEs industry in SR during the first wave of the COVID 19 pandemic  
(Source: based on Analýza malých a stredných, 2020)

Most SMEs, which have had to limit their businesses due to quarantine measures, operates in the industry of other services. The main activity of these entrepreneurs is, for example, the provision of hairdressing and beauty services (11 195 SMEs), or entertainment and leisure activities (1 489 SMEs).

In the accommodation and catering industry, the most impacted are entrepreneurs providing the type of catering (6 962 SMEs), other special-purpose catering facilities (4 371 SMEs) and restaurants (3 885 SMEs). Existing problems in the transport industry are mainly faced by entrepreneurs providing other passenger land transport (3 485 SMEs) and taxi services (2 193 SMEs). Within retail, furniture traders (720 SMEs) and computers (691 SMEs) had to limit their business. As part of business services, 623 SMEs were closed, which operated as travel agencies and 507 SMEs, which operated as travel agencies (Analýzy malých a středných, 2020).

### **3. RISK MANAGEMENT IN THE CREATION OF BUSINESS PLANS AND INNOVATIVE PROJECTS**

The main criteria for a successful project include the delivery of the project on time and within budget without damaging the quality of the final outputs. The main factors of project failure can include, in particular, missing, insufficient or incorrectly implemented project risk management. In the case of start-ups, the starting point for success is a quality business plan (plan), which most often enterprises have developed in the form of a project. A business plan is the ultimate planning tool and a guarantee against business failure. Business failure due to poor planning can be avoided, but a good business plan needs to be developed, so it should include an adequate risk assessment and management process. In general, enterprises that underestimate planning, plans failure, especially if they underestimate risk management, whether in optimization, restructuring, innovation or development activities. The competitive environment forces enterprises to constantly advance and innovate in order to maintain profitability, growth and achieve business success. Due to the unstable of the external environment, the need for risk management in a development project, respectively innovation projects are key. Innovation is essentially a necessity, not only through the development of new products or services, but also through the search for new business models, which often means changing the rules of the game, organizational innovation, finding new ways to improve production efficiency and business overall, process innovation, as well as the introduction of new marketing tools. Innovation brings benefits and is real value for the customer, thus separating winners from losers more often than any other factor. The success of innovative projects becomes a necessity and requires an assessment of all critical success factors that can affect the process and damage it in any way. Project management is currently one of the most effective ways to manage change and solve strategic or other important tasks in enterprises. Project management is defined as the art and science of coordinating people, materials, money, and time schedules so that a project is completed on time and at planned cost. Despite the fact that there are many managerial approaches to project management, we are constantly faced with the premature termination of projects, without achieving the set goals. This may be due to a lack of or inefficiently implemented risk management throughout the project life cycle. For this reason, project management is often unable to respond flexibly to risks that it did not take into account when planning a project. An important factor in project management is uniqueness. The uniqueness of projects stems from their temporality and variability of project teams. Differences, although often insignificant, introduce a degree of uncertainty into their management. Although the project assignment is the same many times, changes in the factors of the internal or external environment may give rise to a new specific risk. Therefore, projects are one of the riskiest activities in the enterprise, especially investment projects. According to Buganová (2018), almost every project plan should also include risk management, which is implemented at various levels in terms of expertise. Many times, the project team relies on the mechanical completion of tables that have been taken from previous projects. However, enterprises often lack a comprehensive approach to risk management and thus also risk management in projects, as activities aimed at assessing and managing risk are not sufficiently interconnected and work without a follow-up to the enterprise's strategy.

There are problems, such as failure to define responsibility for risks, insufficient focus on identifying the root causes of risks, etc. Managers in enterprises lack practical instructions on how to optimally and effectively apply the risk management system, as well as models that would serve for prevention and allow flexible assessment and management of risks in key processes and projects.

### **3.1. Conclusions and formulation of the main problems**

If we focus on new business plans or development projects in SMEs, we usually get to managers, who are usually based on a risk assessment based on their own experience. There is often a lack of relevant information on the basis of which the sources of risks are identified and the whole risk management process is processed very superficially. For large enterprises, the approach is different, as for the innovative projects usually mean significant investment costs. Methods that are suitable for identifying risks in the project risk management process for SMEs are, for example:

- assessment of documentation and knowledge base,
- methods of obtaining information (Brainstorming, Delphic technique, "Pre-Mortem" design, nominal group technique, kinship diagrams, structured interviews, questionnaires, discussions with experts, etc.),
- SWOT analysis,
- checklists (checklist analysis, prompt lists),
- analysis of assumptions and limitations, analysis of root causes,
- diagrams (cause and effect diagram, e.g. Ishikawa diagram, butterfly diagram, system and process diagrams, impact and force field diagrams),
- methods for identification and analysis of faults and hazards (FMEA, PHA, FTA, ETA, etc.).

At this stage, the identified risks also need to be organized in a structured list. A project risk catalog (register) is a form, primarily existing in electronic form, in which the risks, their description, evaluation and risk management activities are gradually recorded. The content and scope of the risk catalog depend on the complexity of the project. After processing, the list of identified risks should be verified from the point of view of its completeness by all team members, possibly in consultation with experts from the enterprise or external experts. The identified risks are briefly recapitulated, their completeness is assessed, ambiguities, discrepancies and missing information are identified. Managers in the preparation of development projects (feasibility studies), respectively business plans, must characterize the processes that are most important for achieving the objectives. Within these processes, it is essential that they include not only current operational processes, but also innovative processes aimed at estimating future customer needs, including customer support. Figure 2 shows the risk management according to ISO 31000 as part of the innovation and operational process. Emphasis needs to be placed on its cyclical course and continuous improvement.

*Figure following on the next page*

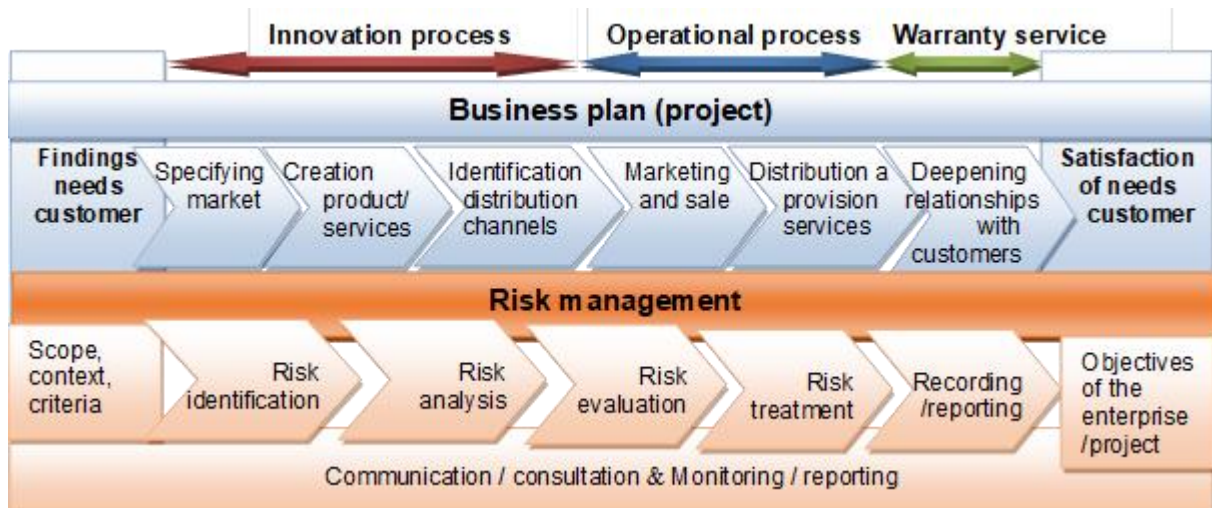


Figure 2: Risk management in creating a business plan  
(Source: own elaboration)

The driving forces of long-term financial success require completely new products and services to meet the needs of current and future customers. The innovation process is focused on long-term value creation. For many SMEs, the ability to successfully manage the new product development process, or the enterprise's ability to reach a completely new target group of customers, is more important for future success than consistent effective management of current activities. Innovation is one of the most important critical processes. While the current operational process delivers existing products to current customers and therefore its risk is lower, it is different for future-oriented projects. When preparing business plans and preparing feasibility studies, the results of market research are used to determine its size, nature, customer preferences and, last but not least, to identify new opportunities. The intention is to satisfy the specific needs of customers. Decision-making should be made on the basis of relevant information and individual steps should also be assessed in terms of the risks that may cause the objectives of the project not to be met.

#### 4. CONCLUSION

The current business environment is affected by the COVID 19 pandemic, which has paralyzed the world economy and caused the defunct of many SMEs. That is why many managers understood the importance of crisis prevention through the implementation of risk management in the enterprise or project already during its preparation, during the feasibility study. SMEs, which are more flexible in response to change than large enterprises, but often do not have the financial background to overcome longer downtime, have probably been most affected by the current situation. That is why it is necessary for them to pay increased attention to risk management and especially to prevention, often their continued existence depends on it. Risk management from the point of view of prevention within the framework of operational and innovation activities of SMEs increases the resilience of the project as well as business activities. Innovative activities are a prerequisite for the development and success of any enterprise, but if the risks associated with their development and implementation are underestimated, they can also have negative impacts and cause huge financial damage. Therefore, managers should not underestimate the work with risks and constantly educate themselves in this area.

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# THE ROLE OF ENFORCEMENT MECHANISMS ON IFRS IMPLEMENTATION: PERCEPTIONS FROM TAX OFFICIALS

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## ABSTRACT

*The adoption of International Financial Reporting Standards (IFRS)-based accounting systems may not be enough to achieve global accounting harmonization. Prior studies shed light on the critical role played by enforcement mechanisms while effectively contributing to a worldwide adoption of IFRS. Nevertheless, there is a dearth of research on this topic that could bring to light opportunities to improve the effective implementation of IFRS-based models. This paper intends to reduce the gap of the research on this topic in Portugal by drawing conclusions from the perceptions of tax officials. This paper is a piece of qualitative longitudinal research since interviews were performed in two different moments: before adoption of an IFRS-based system, in 2009; and after adoption, in 2017. The findings of this study raise awareness towards a possible enduring and ongoing resistance to the implementation of the IFRS-based principles in Portugal, as a result of poor enforcement. Accordingly, this research suggests the need for drawing strategies to achieve the success of the Portuguese accounting reform, by effectively ensuring the financial reporting standards implementation, which ultimately may require the adoption of enforcement mechanisms.*

**Keywords:** *Standards Enforcement, Longitudinal Research, International Financial Reporting Standards, Portugal, Perceptions, Tax officials*

## 1. INTRODUCTION

The adoption of International Financial Reporting Standards (IFRS)-based accounting systems may not be enough to achieve global accounting the material harmonization. There are plenty studies (e.g. Al-Shammari *et al.*, 2008; Al-Hussaini *et al.*, 2008; Bonetti *et al.*, 2016; Bradbury & Scott, 2020; Brown & Tarca, 2005; Carneiro *et al.*, 2017; Naser *et al.*, 2005; Quaglia *et al.*, 2020) highlighting the role of the enforcement as a prerequisite to international financial reporting convergence of IFRS-based financial statements. From an institutional viewpoint (Oliver, 1991), enforcement structures are crucial to overcome resistance to change. Since the IASB does not have enforcement power, strong enforcement mechanisms become particularly relevant in promoting accounting quality following IFRS adoption (Soderstrom & Sun, 2007). Additionally, given the flexibility underlying IFRS standards, accounting professionals in Continental-European countries will follow general principles in contrast to the strict rules - based system they were committed to before (Ball, 2006).

In countries exhibiting a high level of shareholders protection, interpretation will tend to lead to a true and fair view of companies' reality. On the other hand, in countries marked by a strong protection of creditors, interpretation will be inclined to fulfill banks' contracting demands (Soderstrom & Sun, 2007). In what follows, effective enforcement mechanisms are paramount to effect global implementation of IFRS-based models. For instance, prior studies (e.g. Brown & Tarca, 2005; Daske *et al.*, 2013; Wang & Yu, 2015) suggest that the capital-market benefits around IFRS adoption are more likely to occur in countries with effective legal enforcement. While there is a growing body of IFRS-related literature, there is little research on IFRS enforcement (Bradbury & Scott, 2020). Such paucity is keenly felt in qualitative-based research. In this context, this study provides qualitative evidence on the appropriateness of enforcement mechanisms, from which measures are inferred to secure the success of the Portuguese accounting reform. To the best of our knowledge, there is no such study regarding Portugal (see for example, Oliveira *et al.*, 2018 for a review of the IFRS literature based on Portugal). This study is based on the perceptions of tax officials working with the external inspection of companies in Portugal. This is a piece of qualitative longitudinal research since interviews were performed in two different moments: before adoption of an IFRS-based system, in 2009; and after adoption, in 2017. In order to converge the national accounting standards with the EU-endorsed IFRS, the *Comissão de Normalização Contabilística* (CNC, the Portuguese Accounting Standards Board) approved a new Accounting Standards System, the *Sistema de Normalização Contabilística* (SNC, System of Accounting Standardization) of compulsory adoption by non-financial unlisted companies since 1 January 2010 (Decree-Law 158/2009 of July 13). SNC is generally aligned with IFRS (André, 2017; Isidro & Pais, 2017). Decree-Law (DL) authorized the SNC to establish penalties for non-compliance (DL 158/2009 Article 14, amended by DL 98/2015), with a view to promote compliance with this IFRS-based model. Accordingly, non-compliant companies are entitled to a penalty ranging from €1,500 to €30,000. The perceived incompatibility between the traditional Portuguese accounting system and IFRS philosophy is likely to hinder the effective national-level implementation of the IFRS model. Notably, this mismatch is likely to adversely influence receptiveness and acceptability of the IFRS ideology, and thereby compromise the quality of the resulting accounting information. Therefore, enforcement mechanisms are expected to play a particularly important role to the success of the Portuguese accounting reform, and, as such, this country provides a rich research setting of the core theme. The next section describes our research method. It is followed by the presentation of the research results. The final section discusses the main results and outlines their implications.

## 2. METHODOLOGY

The basic methodological underpinning of this research study is qualitative – rather than seeking to generalize the perceptions gained, the main objective of this study is to yield rich and detailed insights regarding IFRS' enforcement mechanisms (Miles & Huberman, 1994; Flick, 2006). A semi-structured interview guide was developed to obtain a balance between flexibility and comparability of the data collected. We selected one professional group whose perceptions of IFRS-adoption related issues remain under-researched: tax officials working with the external inspection of companies in Portugal. Although tax officials have been overlooked, they are well positioned to offer relevant insights since they deal closely with many preparers on their inspection practice, and they play a disciplinary role by seeking to ascertain financial statements' credibility. The first stage of the interviewing process took place in the first semester of 2009, when the Portuguese business community was in the stage of preparation for the adoption of the new accounting system in January 2010. The second round of interviews was later conducted seven years after adoption, in 2017. The interviewees were the same in both years of interviews.



Final sample size in each year is nine, and it was determined by the attainment of theoretical saturation (Strauss & Corbin, 1990; Marginson, 2004). Sampling of interviewees was non-probabilistic since simple random sampling is a poor way to draw a small sample (Maxwell, 1996). We wanted to potentiate extraction of highly relevant empirical evidence by interviewing mature professionals, who were still young enough to escape the possible age effect of being unfavourable to change processes as that underlying the research theme. In what follows, all but one of the sampled professionals had more than 15 years of working experience (n=8), and the dominant age group was 35-44. Reflecting a dominant professional trait, most interviewees were male (n=8).

### 3. RESULTS

Table 1 summarizes overall perceptions of interviewees regarding sufficiency or effectiveness of Portuguese enforcement mechanisms to ensure the consistent application of the IFRS- based accounting standards.

*Table 1: Perceptions of enforcement mechanisms to the IFRS-based model*

	Year of interviews	Insufficient / Ineffective	Undecided	Sufficient / Effective
Tax Officials (n=9)	2009	9	0	0
	2017	9	0	0

Both just prior adoption and seven years after adoption of the IFRS-based model, all Tax Officials (TO) perceived extant Portuguese enforcement mechanisms to be unsuitable to ensure proper application of the new accounting model. Outstandingly, the minority of respondents who perceived extant enforcement mechanisms to suffice, acknowledged some caveats as to their effectiveness. On debating the issue of enforcement, a wide majority of interviewees proved extremely critical, either in 2009 or 2017. It is remarkable that gist perceptions on insufficiency or ineffectiveness of enforcement mechanisms were maintained over the years, which is consistent with enforcement not being a short-time bridgeable obstacle to the development of a country's accounting system. As early as prior to adoption, in 2009, enforcement was perceived to be a weapon to offset the potential threats posed by the national institutional context. By decreasing order of citation, such threats related to the accounting profession, the accounting culture, and the tax-accounting relationship. For instance, some respondents already anticipated that the shift on traditional cultural values and the disengagement between accounting and taxation underlying the implementation of the new accounting model demanded enhanced supervision. Yet, strengthening of supervision was mostly perceived in 2017 not to have, at least satisfactorily, occurred. Major criticisms to enforcement made in 2009 were the excessive long processes, the lack of coordination among enforcement authorities, and the inexistence of penalizations for non-compliance. However, it should be noted that in 2009 the CNC's enforcement system (art. 14, DL 158/2009) - namely the penalties measures resulting from the non-application of the SNC - had not yet been announced, and therefore, they were unknown to the respondents. Nevertheless, seven years after having been implemented, interviewees were unanimous in acknowledging the CNC's enforcement system not to be in place, which was attributed to "*CNC's shortage of human resources to carry out inspections*" (TO7, 2017). In the wording of one TO, "*When this enforcement system was created and announced, accountants feared it, but now they have realized nothing has happened to date, so they are very much laid-back toward accounting practice*" (TO3, 2017). It was underlined that "*It is important to bring CNC's enforcement system to operate in order to uncover the extent of actual adherence to SNC's standards*" (TO7, 2017). Additionally, several interviewees (TO1, TO2, TO7, 2017) were critical of the auditors' enforcement role.

They acknowledged that in so far as auditors are paid by their clients, there is no true independence, so their certifications of financial statements are distrustful:

*The relevance we [TO, in inspection practice] give to a legal certification of accounts is truly little. From the experience we have, we already came to the conclusion that there are many flaws at the accounting level, which sometimes actually have major implications, namely in terms of continuity, and they are too often omitted by auditors. (TO7, 2009)*

*I do not believe statutory auditors very much (...) actually, they are the first ones to carry out abusive tax planning to justify the large amounts they earn (...) Their work is not one of independence. (TO2, 2017)*

*(...) there is something that puzzles me: if the largest corrections forced by tax authorities correspond with erroneous accounting situations, mostly occurred in large firms (...) how come that according to the corresponding Audit Certificates on the Financial Statements there was a true and fair view?! (...) I am sure problems are spotted, but they are not reported because of economic dependency considerations. (TO1, 2017)*

To overcome auditors' alleged independence problem, it was suggested "External auditors should not be freely selected and hired by the companies themselves" (TO1, 2009) because "As long as there is a dependency relationship, if the auditor doesn't do what the client says, the client will tell he/she will hire another auditor" (TO1, 2009). Some TO admitted being, to a greater or lesser extent, unfamiliar with the process and effectiveness of the random quality control carried out by OCC (*Ordem dos Contabilistas Certificados*, i.e. Portuguese Chartered Accountants). Yet, the dominant view of interviewees (TO2, TO6, TO7, TO8, TO9, 2017) was that OCC's enforcement mechanism was ineffective. This was corroborated by quotations such as the following:

*Many accountants are highly fraudulent (...) I see accountants that are in the market and given the batch of frauds they commit, they should no longer be accredited (...) and there is no culture of denouncing these people and little culture of OCC kicking out these people (...) this culture of denouncing should be stimulated by OCC. (TO2, 2017)*

The enforcement measures suggested by the interviewees include the following: (i) discuss the way the supervision is being exercised and regulated (importance of the supervisors to correctly interpret their mission); (ii) profession-wide quality assurance; (iii) reinforce preparers' responsibilities; (iv) change the way the auditing activity is regulated (change the relationship between auditors and their clients); and (v) increase the spectrum of companies subject to auditing. As to the later suggestion, some interviewees raised concerns with its feasibility because "...if companies have to pay for supervisory mechanisms, it is not affordable... already many companies required to have external auditing, do not actually have it because they cannot afford to pay to an auditor" (TO2, 2009).

#### **4. DISCUSSION AND CONCLUSIONS**

In both interview stages (2009, 2017), tax officials perceive extant enforcement structures to be inefficient to ensure the success of the Portuguese accounting reform. Such longitudinal finding suggests poor enforcement may not be a short-time bridgeable obstacle to the development of a country's accounting system. In what follows, our evidence raises serious concerns regarding the adverse effect of the environmental factor *enforcement* on the occurrence of resistance to adoption of the IFRS-based accounting system in Portugal.

This point is particularly critical in the Portuguese context, given the *a priori* unfavourable institutional context. Despite tax officials' acknowledgment of auditors' enforcement role, some suspicion of their professional independence emerged. It was suggested auditors be allocated to companies by an independent third party. This is in line with Bradbury and Scott (2020, p.18) who suggested "*private enforcement (auditing) and public enforcement (regulation) are complementary activities*". While it was emphasized the need for enforcement measures to secure the success of the accounting reform, tax officials were highly critical of the Portuguese government's policy initiatives to improve supervision, namely the enforcement system established by the CNC. Particularly, it was suggested that this enforcement system should be put into operation. Arguably, failure to implement this may lead preparers to engage in decoupling. Other opportunities for improvement were uncovered, namely a broader and more stringent control exerted by OCC, in addition to other possible enforcement measures suggested by interviewees, as described earlier. Overall, our results corroborate Brown & Tarca's (2005) interview study, which pointed to the need to modify the roles of national enforcement bodies and standard setters following IFRS adoption. From an institutional viewpoint, this evidence corroborates Oliver's (1991) argument on the critical role of enforcement mechanisms to surpass resistance to change. The emergent evidence is also in line with many findings of prior literature reporting the enforcement of IFRS-based financial statements as a prerequisite for the international financial reporting harmonization. In view of the above, it might be claimed that enforcement is a key element of the IFRS-based financial reporting framework. As acknowledged by interviewees, sufficient and effective enforcement is important to assist overcoming institutional barriers to the success of the accounting reform. Therefore, failure to undertake the recommended strategies might generate adverse consequences for the implementation of the new accounting system, such as: the decoupling - namely, the maintenance of the prudence and secrecy cultural traits, and the linkage between taxation and accounting. Concurrently, our research evidence may assist national and international regulators, namely the IASB, the CNC, and the OCC, to pursuit sufficient and effective enforcement mechanisms. Our findings also lend support to Quagli *et al.*'s (2020) conclusion about the opportunity of establishing a European Union (EU) supranational IFRS enforcer.

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## CLUSTER ORGANIZATION: WE DO NOT KNOW WHERE WE PLAY

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### **ABSTRACT**

*The cluster organization was a newly emerging form of the association in the last decades of the twentieth century. Globalization, the high pressure on financial efficiency, cost reduction, and the development of remote communication were the primary factors that encouraged the development of the clusters. Today this became a new normal of the interfirm, inter-organizational collaboration. These factors accelerate the formation, and the cluster model has a dynamically increasing and expanded literature. Nevertheless, the cluster is not a homogenous form. A limited number of academic models evaluate the clusters' organization, and a comprehensive overview of the structural setup is not available. This literature review intends to deep dive into the previous XXX years' publications in order to collect, structure, and clarify the cluster operational models. Based on the systematic literature review, this paper developed a conceptual model integrated into three dimensions as Time frame, Territory, and Way of working, which together may describe the operational model of cluster organizations. The study offers a new taxonomy that may significantly impact the better understanding of the organizations' territory and helps scholars restructure their knowledge.*

**Keywords:** *cluster organization, virtual team, organizational structure, collaboration*

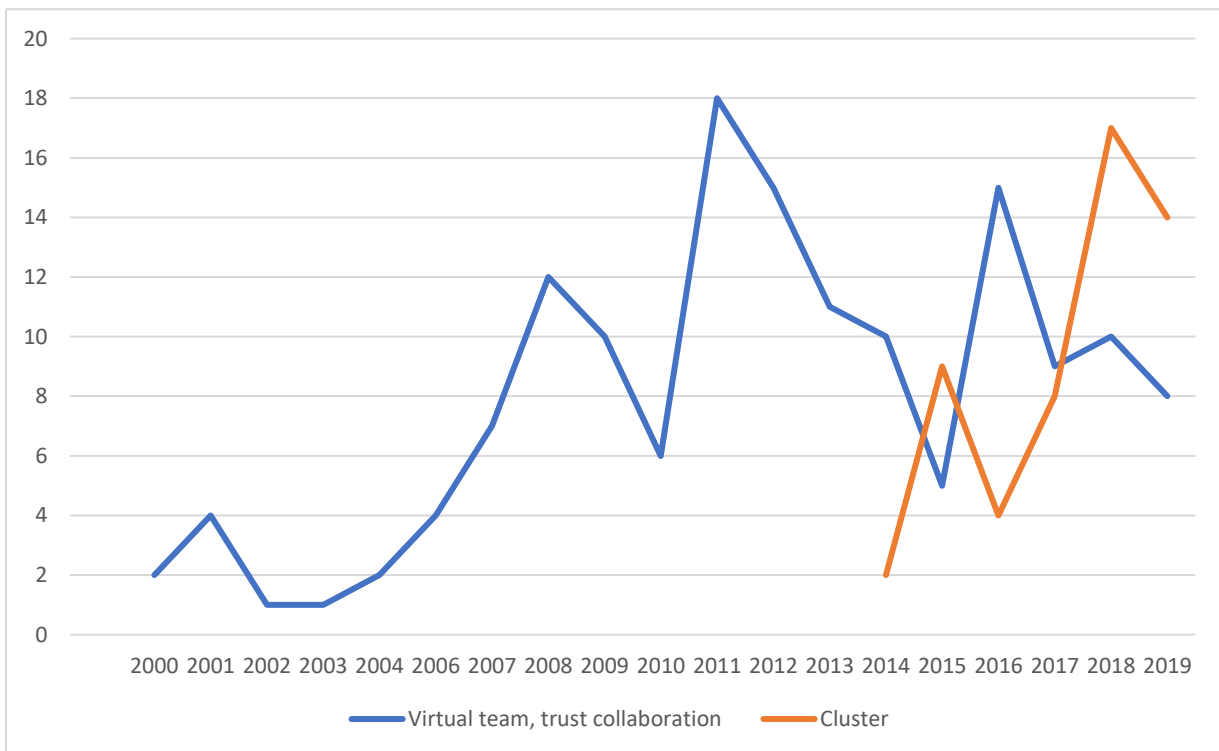
### **1. INTRODUCTION**

Generally accepted principle that the organization's aim determines the organizational structure, and it has a fundamental role in collaboration, knowledge sharing, organizational behaviour, team commitment, and trust. The investigation and description of the organizations' structural dimension have a significant part in the classical organizational literature. Many scholars appointed this literature gap related to the cluster model and required more systematic research to explore the structural dimensions of the cluster organizations (Morgulis and Sölvell 2017; Breuer, Hüffmeier, and Hertel 2016). Porter defines the cluster in 2020 as "a new way of thinking about the national, state, and local economies, and they necessitate new roles for companies, for various levels of government, and for other institutions in enhancing competitiveness." The cluster beyond the competitive advantage, support innovation, provide proximity to the resources to the MNEs if the company builds and maintains an intense and close relationship with the employees (Becattini et al., 2013; Coletti and Landoni, 2018; Corò and Grandinetti, 2001; Gunawan et al., 2016; Nestle et al., 2019; Porter, 2000). The personal development – which contributes to the team effectiveness – (Caya et al., 2013) makes the cluster form more attractive for the senior and experienced managers and provides an excellent place for growth to the young talents than in the country based model. The general employee-retention ability and the participants' motivation may improve to the organization as the impact and the content of the job is higher than in the separated organization model. Social capital can develop internally, which leads to better access to knowledge and generates a favourable environment for innovation (Molina-Morales and Martínez-Fernández, 2009; Qui et al., 2017). In the cluster model, productivity increases, and innovation speeds up (Molina-Morales and Martínez-Fernández, 2009; Porter, 2000; Tallman et al., 2004).

The original article (Porter 2000) defines and describes the new form of interconnected companies and understands how it supports innovation, competitiveness, and cooperation in an increasingly complex, globalized world. The definition was descriptive, which foremost specified the new phenomenon. By now, the cluster definition turned to prescriptive and implies all collaboration where these factors are present simultaneously. Consequently, the cluster definition may lose its sharpness.

## 2. METHOD

Identify the literature gap, the chosen method consisted of the investigations from highly ranked (Q1) peer-reviewed journals, using the Boolean (AND) search of the selected keywords in the Scopus database and the rank of the journals in the Scimago Journal & Country Rank database. The cluster organization and the remote working virtual team is a new phenomenon; the area has limited but exponentially growing publications. The number of publications in the Scopus database is illustrated in Figure 1. As in this combination of the keywords, the cluster appeared from 2014, therefore we excluded all papers published earlier in our research.



*Figure 1: Publications related to virtual team and cluster in Scopus from 2000*

The meaning of cluster definitions has not been crystallized and not formalized properly in the terminology. Many disciplines use cluster terminology for different processes like chemistry, biology, statistics, or medicine. The virtual team was the most diverse definition covering a massive territory in computer science. Therefore, the predetermination of categorization and selection was conscious and critical to prevent the results' biases. Minimize the errors, the literature review was only running among the journals in the business, management, and accounting subject areas. The predefined keywords dealt with the form of organization as "cluster", type of the collaboration as "virtual team", the impact of the way of working as "knowledge sharing", "social capital", "trust", "collaboration", and the referred to the research question as "organization" (Figure 2).

Keyword 1.	Keyword 2.	Identified	Selected
Virtual team	Knowledge sharing	20	11
Virtual team	Trust	55	14
Virtual team	Organization	116	7
Virtual team	Social capital	23	15
Cluster	Knowledge sharing	20	13
Cluster	Trust	10	1
Cluster	Organization	0	
Cluster	Social capital	10	2
Cluster	Collaboration	23	1
TOTAL		277	64

*Figure 2: Literature search and selection based on keywords*

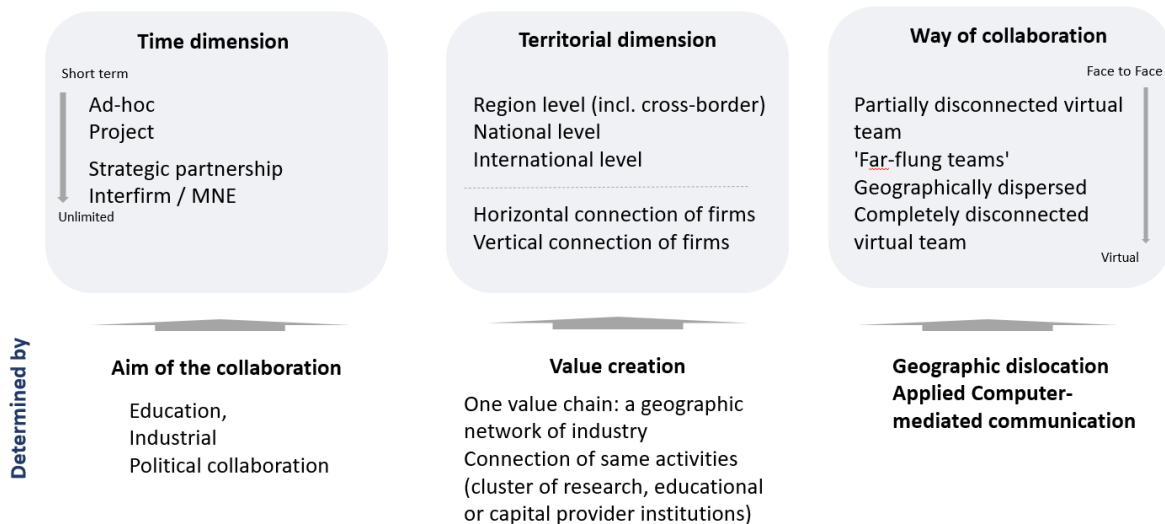
From the identified 296 articles, 64 were defined as Q1 publications for further analysis. Providing a multi-disciplinary perspective based on the inclusion of papers from various disciplines such as Business and International Management (9); Organizational Behaviour and Human Resource Management (8); Psychology (7); Economics, Social Science, Electronic Engineering and Computer Science, Decision Science, Strategy management; Finance; Arts and Humanities.

### **3. FINDING**

The review's main conclusion is that the cluster organization does not have a clear definition in the literature. Each article that examines the cluster organisation uses the definition of Porter and connects the cluster with competitive advantage and innovation in an increasingly complex and knowledge-based economy (Porter 2000; Kim and Shim 2018; Goerzen 2018; Nestle et al. 2019; Li 2018; Gunawan, Jacob, and Duysters 2016). Then the application is too broad and different, from loose connection systems like a network of businesses within a country to cross-border school projects (Gunawan, Jacob, and Duysters 2016; Nestle et al. 2019; Peter Weimann et al. 2013; Marra, Mazzocchitti, and Sarra 2018). The cluster now does not describe homogenous, well-defined groups of organizations, and the application deviates from the original target. Porter's definition is generally accepted and applied in the articles. Each publication examined the advantages of the clusters and connected them to the original sources, like competitive advantage and innovation in a global and knowledge-based economy (Porter 2000; Kim and Shim 2019; Goerzen 2018; Nestle et al. 2019; Gunawan, Jacob, and Duysters 2016). Based on the literature review, we concluded that the cluster definition application is general and diverse, which may confuse the searches and interpretations.

### **4. THE MAIN DIMENSIONS OF THE CLUSTER ORGANIZATIONS: TIME, TERRITORY AND THE WAY OF COLLABORATION**

Although each team uses some of Porter's definition elements, no homogeneous organizational structure emerges in front of the readers. Scholars described clusters from loose connection systems like a network of businesses within a country, cross-border school projects (Nestle et al. 2019; Peter Weimann et al. 2013; Marra, Mazzocchitti, and Sarra 2018) or a highly controlled and centralized liaison of the Multinational Enterprise's subsidiaries. The aim of the paper was the define and described the organization form adequately in this diverse reality. As many factors influence collaboration, the conclusion that only one dimension cannot characterize the phenomenon (figure 3).



*Figure 3: Combination of 3 dimensions can describe the operational model of cluster organization*

Time is the first dimension to classify organizations. The ad-hoc organization is not typical in a cluster. The remote working or the investment to bring remotely working organizations together is too big compared to the benefit of an unconstrained collaboration. The project team is the most typical time frame where the cluster form can contribute the most. During the project, the team can share in-depth experiences and utilize resources during the teamwork and activate shift trust and improve cohesion for innovation and knowledge transfer (Zakaria and Mohd Yusof 2020; Paul, Drake, and Liang 2016). The second most published time frame is the long-term or unlimited interfirm collaboration as the typical form of the multinational enterprises or firms who built a value chain together (Michele Coletti and Eleonora Di Maria 2015; Coletti and Landoni 2018; Eisenberg and Mattarelli 2017; Nestle et al. 2019; Arnold, Barling, and Kelloway 2001). These firms release superior performance compare to the isolated players and compensate for the lacking skills and resources through cooperation. This dimension is originated by the aim of the association: education is typically a project, an innovation or a political collaboration is a strategic partnership; the industrial interfirm collaboration is long-term or unlimited. The Territorial coverage - the second dimension of the model - marks a broad spectrum of territorial agglomeration from the collaboration of the different industries within one value chain (a geographic network of the sector), a connection of same activities (cluster of research, educational or capital provider institutions) and the horizontal or vertical connection of firms withing one organization (Morgulis and Sölvell 2017; Kim and Shim 2018; Tallman et al. 2004). The clusters beyond the competitive advantage, support innovation, provide proximity to the resources if the company builds and maintains an intense and close relationship with the employees (Corò and Grandinetti 2001; Becattini et al. 2013; Porter 2000; Gunawan, Jacob, and Duysters 2016; Nestle et al. 2019; Coletti and Landoni 2018). As a third dimension, the Way of collaboration comes into consideration to understand all the cluster model spectrums. Development of the Information Technology and internet-mediated collaboration (Berry 2011; Peter Weimann et al. 2013; Seetharaman et al. 2019; Plotnik, Hiltz, and Privman 2016; Schulze and Krumm 2017; Powell, Piccoli, and Ives 2004) ensured the technical background and allowed the close collaboration among parties (Morgulis and Sölvell 2017; Tworoger et al. 2013; Gilson et al. 2015). The traditional face-to-face model is not fully applicable to these organizations, as the geographic dislocation is the essential criteria of the cluster. The partially or completely disconnected virtual teamwork is the typical Way of collaboration, where the teams or team members of the same team are fully or partially



separated (Bjørn and Ngwenyama 2009). Technological development has rewritten and, at the same time, fundamentally changed the collaboration. These virtual teams comprise participants who do not meet physically (Jarvenpaa et al., 1998) or rarely meet face-to-face (Chudoba et al., 2005). This type of team is geographically dispersed; the team members accomplish work primarily using internet-mediate technology. Other definitions, as "far-flung teams" are also described that the teams meet face-to-face occasionally with geographical distances and work on a highly interdependent organization.

## 5. CONCLUSION

The result underpinned the need for the creation of the different archetypes of the cluster organizations. Based on the defined literature gap, the paper aimed to collect and structure the most typical forms of clusters and prepare a comprehensive structure of the applicable and more precise subcategories and its definitions. The cluster form itself creates a new agenda for the leaders and managers (Porter 2000), which is rarely realized in the papers. Suppose the organizations do not know where and how they play; it leads to falling decisions. It may negatively impact the short- and long-term functional efficiency, employee retention ability, collaboration, trust, and knowledge sharing. The precise definition of the cluster archetypes supports both scholars and practitioners. Collecting and structuring the cluster's definitions systematically may help reconstruct the existing knowledge and define new literature gaps for further research. The new subcategories' amplification allows practitioners in the knowledge transfer and finds the best applicable model for their organization.

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# RE-READING R.D. KAPLAN'S COMING ANARCHY: NEO-MALTHUSIANISM AND THE DEFENSIVE GEOPOLITICAL DISCOURSE IN THE ELECTION PROGRAMS OF THE AFD AND THE LEGA

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## ABSTRACT

*The main purpose of the paper is to find the “geopolitical” in the selected, European populist parties’ political programs that we have analysed here, with a specific focus on Neo-Malthusianism and “invasion threat” scenarios, described in R. D. Kaplan's famous paper *The Coming Anarchy: Shattering the Dreams of the Post-Cold War* (1994). Indulged by the rising tide of right-wing populist parties in most European countries, which has especially been visible since the full scale of the migrant crisis that exploded in 2015, we decided to find the similarities between the excerpts of the programs that refer to the situation in Northern Africa and Central Africa (Sahel), and Kaplan's afore-mentioned paper, which has been mostly regarded as Neo-Malthusianist by its character and increasingly defensive by its posture, hence it introduces the birth rates of African countries and the projections about the population increase in the coming decades as a threat to the developed world and a fuel to the illegal, primarily towards Europe-oriented migration, combined with chaos, poverty and anarchy in the societies of the African Sahel, concomitantly combining these with the recommendation for the “defence” of the developed world against the rising tide of illegal migrants, infectious diseases etc. To these dangers, from today's perspective, we could add radical Islamist terrorism, which has widely spread geographically and increased its intensity in the last two decades, and perfectly fits into “endangerment” scenarios, enabling a wide-spread geopolitical discourse and practice of securitization. A logical question also comes up: Did Kaplan's famous work inspire the rise of the modern right-with populism in Europe (and in the U.S.A., Brasil etc.) fuelled by Neo-Malthusianism which he advocates, and are the conditions in Africa and the Middle East to partially blame for that? We have analysed the Alternative for Germany (die Alternative für Deutschland – AfD) and the League (Lega, former Lega Nord) programs in the original respective languages, by using critical discourse analysis in order to find the exact citations that are Neo-Malthusianist by their character and/or defensive by posture, and compare these with the ones found in Kaplan's work.*

**Keywords:** *Coming Anarchy, Neo-Malthusianism, defence, immigration, populism, Alternative für Deutschland (AfD), Lega*

## 1. INTRODUCTION

The main purpose of the paper is to find the “geopolitical” in the selected, European populist parties’ political programs that we have analysed, with a specific focus on Neo-Malthusianism and “invasion threat” scenarios, described in R. D. Kaplan's famous, albeit due to its Neo-Malthusianist ideas, from critical geopoliticians contested paper *The Coming Anarchy: Shattering the Dreams of the Post-Cold War* (1994). Indulged by the rising tide of right-wing parties in most European countries, commonly referred to as right-wing populists, which has especially been visible since the full scale of the migrant crisis that exploded in 2015, we

decided to find the similarities between the excerpts of the programs that refer to the situation in Northern Africa and Central Africa (Sahel), and Kaplan's afore-mentioned paper, which has been mostly regarded as Neo-Malthusianist. "It is Thomas Malthus, the philosopher of demographic doomsday, who is now the prophet of West Africa's future. And West Africa's future, eventually, will also be that of most of the rest of the world.", writes Kaplan in his *Coming Anarchy*. Additionally, citing Homer-Dixon (1991), Kaplan embraces the apology for Neo-Malthusianists: "*Neo-Malthusians may underestimate human adaptability in today's environmental-social system, but as time passes their analysis may become ever more compelling.*" Kaplan's work is indeed by its character Neo-Malthusianist and increasingly defensive by its posture, hence it introduces the birth rates of African countries and the projections about the population increase in the coming decades as a threat to the developed world and a fuel to the illegal, primarily towards Europe-oriented migration, combined with chaos, poverty and anarchy in the societies of the African Sahel, concomitantly combining these with the recommendation for the "defence" of the developed world of the Global North against the rising tide of illegal migrants, infectious diseases etc. To these dangers, from today's perspective, we could add radical Islamist terrorism, which has widely spread geographically and increased its intensity in the last two decades, and perfectly fits into "endangerment" scenarios, enabling a wide-spread geopolitical discourse and practice of securitization.

## **2. EUROPEAN POPULISM AND THE NEW POPULISM: DO VIABLE DEFINITIONS EXIST?**

Populism, whether translated into isolated criticism or broader-spectrum pressures directed at the government, public administration sectors, or private organizations relevant to economic or social life, is by its lack of scientific basis and consistency with other values and measures that it also advocates, a disruptive factor in the functioning of the political system. Particularly in democratic systems, populism represents a departure from the normative channels provided for the definition of the general interest and for social and political change, disregarding the fundamental rights of liberty and equality and tolerance, guaranteeing the dignity of the human person and also endangering the rule of law that safeguards them. The attractive ideas of populism are spread virally in practically every domain of human action, at the micro and macro levels. Consequently, the remedies should be spread as well, from refining philosophical theories on the criteria of what should be a fairer and at the same time freer society, to the concrete application of policies that promote greater economic development, greater distribution of wealth and greater security, or raising the educational and cultural level of the peoples. It is often noted in the literature that it is not easy to give a comprehensive and sufficiently comprehensive definition of populism. Nevertheless, Germani (1978: 88) gives us a description of the main notes that characterize this phenomenon, at a political and social time, however, avoiding indicating its *differentia specifica*: "Populism itself tends to deny any identification or classification with the right/left dichotomy. It is a multi-class movement, although not all multi-class movements can be considered populist. Populism probably refuses any comprehensive definition and usually includes contrasting components, such as the demand for equal political rights, and the participation of all people in political life, but mixed with some kind of authoritarianism, often under charismatic leadership. It also includes at least claims of social justice, a vigorous defence of small property, strong nationalist components, and a refusal of the importance of social class, accompanied by the affirmation of the rights of the people against the group of privileged interests considered usually as enemies of the people and the nation. Any of these elements may be emphasized according to cultural or social conditions, but all are present in most populist movements. Laclau (2005: 4) gives more examples of other authors who, similarly, try to obviate the difficulty of giving precise definitions.

Also takes the opportunity to point out that the obstacles encountered are due to the methodologies used (Ibid: 4 and segments). Laclau's sophisticated construction rests on the concept of the people as the main collective actor in the political system whose dynamism remembers, although remotely, some aspects of the rational and critical discourse on the "public sphere" of Habermas' (1962) seminal book on structural transformation from the public sphere. Beyond the methodological difficulties or errors mentioned by Laclau (2005: 4), as to the way of cutting and working the reality that should be studied when talking about populism, establishing the boundaries of its specificity, it must be recognized that this reality diverges appreciably depending on what we see as demonstrations or movements that are qualified as populist in the United States or Europe. The former do not seem to be able to move within a purely dualistic framework, where the people embrace the entire people of the American federated states and the elites include all the political representatives belonging to the government in Washington or even the high functionalism of the federal agencies. Ultimately, populism has its *raison d'être* and directs its criticism at the shortcomings of representative democracy that do not reflect the thinking and will of the people. Because of the manipulation and self-interest of the elites, the proper functioning of the institute of representation is distorted, and thus the people are not present, unable to make them heard in the decisions that must correspond to their needs and demands. This is not the case only when the populist movement reaches sufficient strength to achieve a binding referendum, or is respected as if it were still overcoming any obstacles that the constitution of the state in which it is located, or if transform or control a strong nationwide party. In Europe, the smaller territorial dimension of each state and its coincident political system facilitates the construction of the concept of the people as a single entity that opposes the political elites, which are also subject to a unitary reduction in their role of political representation consequent decision-making on behalf of the former. The EU, with its mixed tendencies of federalism and confederation, takes on the role of the Member States within its own competences and replaces them as the target of criticism of the poor functioning of representative democracy and its bureaucracy. It also provides a particularly favourable target for the exacerbated manifestation of nationalisms in each country. However, the interpretive schemes of populism of movements and parties, valid for the member states, are *mutatis mutandis* equally valid for the EU. Populism in Europe at the beginning of the 21<sup>st</sup> century, as in the United States, among other states, and for much of the same causes, has increased enormously. Indeed, also in European states, globalization and the economic and financial crisis have reduced investment, impeding or retarding economic development and increasing unemployment. As a result, a sense of uncertainty about the future became widespread in the countries of the south and east of the EU, reinforced by the restrictive effects of the austerity measures that their governments were forced to apply. The Euro crisis, the risk of bankruptcy stemming from the unsustainability of the external debt faced by Greece and Portugal, the weakness of the financial institutions of Ireland and Spain, and the doubts that have begun to be raised about the medium-term resistance of the financial systems. In the Middle East, the increasing disorder that has arisen in the region with the creation of the Islamic State and its military and terrorist actions, the intensification of the war in Syria and Iraq, the rise of contenders in the area, including Russian, Turkish and Russian interventions. This immigration causes serious problems of reception in the countries of arrival, and then also difficulties in their transfer to the states where they will establish permanent residence. These problems have serious political repercussions, either in the countries of disembarkation, in the countries of transit or in the final destination, because of difficulties in cultural, religious or historical coexistence or because of fear of competition in the labour market or with immigrants infiltrating also as Islamic terrorists. Difficulties in border control over the number of immigrants fleeing the military conflicts and insecurity in their countries, fear of their permanent settlement and competition in the labour market and unpleasant historical

reminiscences, have led governments supported by right-wing parties or far-right, in Orban's Hungary, Kaczynski's Poland, in Italy through the influential Salvini's Lega and now in Kurz's Austria in coalition with the Austrian Freedom Party (FPÖ) to adopt violating policies fundamental rights and liberal democracy upheld by the EU. In Greece, the far left SYRIZA party, led by Tsipras, born of the reaction to the austerity imposed by the "Troika", makes the old Socialist Party irrelevant and tries in vain to break free from the conditionality imposed by that tax. In Spain, for the same reasons and with the same policy of reaction to the austerity policy and the defence of the euro, we can, though unable to come to power. In Portugal, with less political relevance, it is the same orientation that inspires the Left Bloc, which, in 2015, together with the Communist Party, belongs to the parliamentary coalition that, with a majority with the Socialist Party, supports the current Government of Antonio Costa. Marine Le Pen, the leader of the National Front, the party of the French right, presented herself, before Macron's surprising success, as a serious candidate for victory in the last presidential election, raising fears about the survival of the European project. Particularly significant are her considerations regarding the outbreak of Islamic fundamentalism, for which its appearance blames the wars in Iraq, Libya and Syria. Le Pen (2006) calls for national border control to prevent the massive entry of Muslim migrants and with them the infiltration of terrorists, and calls for the extinction of automatic granting of French nationality to the Muslims born in French territory. Mrs Le Pen's general position can be summed up in an exasperated and uncritical defence of the French state's nationalism, its independence in international politics and economic affairs, and a consequent deep aversion to the EU and the Euro, even to the point that it has progressively become a kind of "European Soviet Union". Brexit is a good example of populism in its articulation with direct democracy through the use of the referendum, the preceding public discussion, and the continuing political debate, after its completion. In an article in the *Economist*, in the *Bagehot* section, it is very critical and published months after the popular consultation, against the background of the traditional classical position of the English constitutionalists on the sovereignty of the British Parliament, as expressed by Allison (2013) in the Dicey II Lecture of his work *Lectures Introductory to the Study of the Law of the Constitution* and in his specific commentary on the referendum in the new introduction to the 8<sup>th</sup> edition. Considering the strengthening of right-wing populism in the EU, social scientist Alexander Häusler, was asked by Goethe-Institute about the causes and consequences of this right turn and the possible strategies to counteract it. Häusler points out that the success of right-wing parties is due, as one of their reasons, to the euro crisis. In addition to the Euro crisis, the number of refugees has been steadily increasing since mid-2015 and European states are unable to find a rational solution valid for the entire continent. Behind the success of far-right parties would also be a serious crisis of political representation, which would enable right-wing populists to offer nationalist responses to the crisis of the European model. Asked what would be the difference between right-wing extremists and neo-Nazis, Häusler points out that there are in Europe far-right parties that present themselves as right-wing populists, as well as right-wing populist parties that do not come from the far right. The most dangerous party in Western Europe would be the National Front in France, which, at least since the change of leadership, has taken a clearly populist right-wing orientation. This broad spectrum could also be observed in the European Parliament. Häusler considers the AfD to be a partisan political ceiling for various segments to the right of the Christian Democratic Union (CDU), the party of Prime Minister Merkel. At the party's founding in 2013, an environment for economic liberalization in line with the party founder Bernd Lucke dominated the bench. And it was not only since the change of leadership in 2015 that the party began to congregate both former conservative nationalist members of the CDU and the Christian Social Union (CSU), disappointed with their respective seats, as well as an extreme right nationalist segment.

### 3. METHODOLOGY AND PREVIOUS RESEARCH

Geopolitical discourses, whether offensive, defensive, environmental etc., although with the need to be presented as “neutral” and “objective” are neither objective, nor neutral, scientific, unbiased reflections of reality and an actual situation in a single society nor are they “natural” by their character and origin, but are products of geopolitical vision of their own creators (and their origin, race, sex, age, social status), so are political programs expressions of geopolitical discourses, developed for a specific purpose. Therefore, it is necessary to research the geopolitical discourses given the context of involvement in the broader socio-political context that has influenced the design of individual discourses. Hence the main purpose of this paper is to find the elements of Neo-Malthusianism, as well as “invasion threat” and “endangerment” scenarios in the standing election programs, developed for the national parliamentary elections, of the most prominent right wing populist parties in Germany and Italy, the Alternative for Germany (*die Alternative für Deutschland* – AfD, hereafter: the AfD) and the League (*Lega*, former *Lega Nord*, hereafter the Lega), we have analysed these programs – the full Program of the AfD, was developed for the 2017 general elections in Germany, which were held on September 24<sup>th</sup>, whilst the Program of the Lega, was developed for 2018 general elections in Italy, held on March 3<sup>rd</sup>, 2018) in the original respective languages by using critical discourse analysis (hereafter CDA) in order to find the exact citations that are neo-Malthusianist by their character and/or defensive by posture, and compare these with the ones found in Kaplan’s work. Critical discourse analysis is particularly appropriate for critical policy analysis hence it allows a detailed investigation of the relationship of language to other social processes, and of how language works within power relations. CDA provides a framework for a systematic analysis—researchers can go beyond speculation and demonstrate how policy texts work (Taylor, 2004: 436). Meyer and Wodak have developed a critical discourse analysis in geopolitics (Dahlman, Brunn, 2003), which gives special attention to narration techniques. Critical discourse analysis uses the terms such as power, dominance, hegemony, ideology, class, gender, discrimination, interest, reproduction, institutions, social structure, social order, apart from some other analytical ideas, such as the central idea about the social power of groups or institutions, defined primarily through the frameworks of control in the society (van Dijk, 2001: 354; Kurecic, 2015: 248). Although CDA offers many possibilities for analysis of the abundant and accessible materials such as policy papers, political programs, political speeches etc., critical discourse studies in political science are seldom, hence it is among the few social disciplines in which discourse analysis has remained virtually unknown. Therefore, most of the work in which CDA was used has so far been carried out by linguists and discourse analysts.

### 4. ANALYSIS AND RESULTS

*Table following on the next page*

Table 1: Neo-Malthusianist, “invasion threat” and “endangerment” statements found in R.D. Kaplan’s *The Coming Anarchy*

Neo-Malthusianist statements	“Invasion threat” and “endangerment” statements
Designed for a pastoral way of life, polygamy continues to thrive in sub-Saharan Africa even though it is increasingly uncommon in Arab North Africa. Most youths I met on the road in West Africa told me that they were from “extended” families, with a mother in one place and a father in another. Translated to an urban environment, loose family structures are largely responsible for the world’s highest birth rates and the explosion of the HIV virus on the continent. Like the communalism and animism, they provide a weak shield against the corrosive social effects of life in cities. In those cities African culture is being redefined while desertification and deforestation—also tied to overpopulation—drive more and more African peasants out of the countryside.	West Africa is becoming the symbol of worldwide demographic, environmental, and societal stress, in which criminal anarchy emerges as the real “strategic” danger. Disease, overpopulation, unprovoked crime, scarcity of resources, refugee migrations, the increasing erosion of nation-states and international borders, and the empowerment of private armies, security firms, and international drug cartels are now most tellingly demonstrated through a West African prism. West Africa provides an appropriate introduction to the issues, often extremely unpleasant to discuss, that will soon confront our civilization.
It is <i>Thomas Malthus</i> , the philosopher of demographic doomsday, who is now the prophet of West Africa’s future. And West Africa’s future, eventually, will also be that of most of the rest of the world.	Just as there will be environmentally driven wars and refugee flows, there will be environmentally induced praetorian regimes—or, as he puts it, “hard regimes.”
Fifty-five percent of the Ivory Coast’s population is urban, and the proportion is expected to reach 62 percent by 2000. The yearly net population growth is 3.6 percent. This means that the Ivory Coast’s 13.5 million people will become 39 million by 2025, when much of the population will consist of urbanized peasants like those of Chicago. But don’t count on the Ivory Coast’s still existing then.	As refugee flows increase and as peasants continue migrating to cities around the world—turning them into sprawling villages—national borders will mean less, even as more power will fall into the hands of less educated, less sophisticated groups. In the eyes of these uneducated but newly empowered millions, the real borders are the most tangible and intractable ones: those of culture and tribe. (Kaplan citing Huntington’s <i>Clash of Civilizations</i> , author’s remark)
Given that oil-rich Nigeria is a bellwether for the region—its population of roughly 90 million equals the populations of all the other West African states combined—it is apparent that Africa faces cataclysms that could make the Ethiopian and Somalian famines pale in comparison. This is especially so because Nigeria’s population, including that of its largest city, Lagos, whose crime, pollution, and overcrowding make it the cliché par excellence of Third World urban dysfunction, is set to double during the next twenty-five years, while the country continues to deplete its natural resources.	Whatever the laws, refugees find a way to crash official borders, bringing their passions with them, meaning that Europe and the United States will be weakened by cultural disputes.
In twenty-eight years, Guinea’s population will double if growth goes on at current rates.	Beyond its stark, clearly articulated message, Islam’s very militancy makes it attractive to the downtrodden. It is the one religion that is prepared to fight. A political era driven by environmental stress, increased cultural sensitivity, unregulated urbanization, and refugee migrations is an era divinely created for the spread and intensification of Islam, already the world’s fastest-growing religion.
Over the next fifty years the earth’s population will soar from 5.5 billion to more than nine billion. Though optimists have hopes for new resource technologies and free-market development in the global village, they fail to note that, as the National Academy of Sciences has pointed out, 95 percent of the population increase will be in the poorest regions of the world, where governments now—just look at Africa—show little ability to function, let alone to implement even marginal improvements. Homer-Dixon writes, ominously: <b>“Neo-Malthusians may underestimate human adaptability in today’s environmental-social system, but as time passes their analysis may become ever more compelling.”</b>	Much of the Arab world, however, will undergo alteration, as Islam spreads across artificial frontiers, fuelled by mass migrations into the cities and a soaring birth rate of more than 3.2 percent. Seventy percent of the Arab population has been born since 1970—youths with little historical memory of anticolonial independence struggles, postcolonial attempts at nation-building, or any of the Arab-Israeli wars.
Given that in 2025 India’s population could be close to 1.5 billion, that much of its economy rests on a shrinking natural-resource base, including dramatically declining water levels, and that communal violence and urbanization are spiralling upward, it is difficult to imagine that the Indian state will survive the next century.	There is a wealth of data showing the sheer frequency of war, especially in the developing world since the Second World War. Physical aggression is a part of being human. Only when people attain a certain economic, educational, and cultural standard is this trait tranquilized. In light of the fact that 95 percent of the earth’s population growth will be in the poorest areas of the globe, the question is not whether there will be war (there will be a lot of it) but what kind of war.
With as much as 65 percent of its land dependent on intensive irrigation, with wide-scale deforestation, and with a yearly population growth of 2.7 percent (which ensures that the amount of cultivated land per rural inhabitant will plummet), Pakistan is becoming a more and more desperate place. As irrigation in the Indus River basin intensifies to serve two growing populations, Muslim-Hindu strife over falling water tables may be unavoidable.	



*Table 2: The most relevant Neo-Malthusianist, “invasion threat” and “endangerment” statements found in The AfD full program*

Neo-Malthusianist statements	“Invasion threat” and “endangerment” statements
<p>While the European population is aging and shrinking, the population in Africa and in the Arab-Muslim countries of the Middle East is exploding. In Africa, every woman gives birth to an average of 4.5 children. At the same time, child mortality is falling sharply thanks to international aid. By contrast, the birth rate in Europe is 1.6 – in Germany even only 1.4.</p> <p>This means that by 2050, the population of Africa, including all Arab countries, will grow from 1.2 billion today to 2.4 billion. The approximately 590 million people currently living in Europe will reduce in number to around 540 million in the same period, of which one-third will be over 60 years old. In relation to prosperous Europe, Africa is a poorhouse in the world. For both reasons - the population growth of Africa and the prosperity gap with Europe - there is a migration pressure that has dimensions of a migration of peoples. Social geographers have long been able to quantify this migration pressure. (p. 37)</p>	<p>In the Arab world, 23 percent of the population is considered willing to emigrate, in sub-Saharan Africa about 37 percent. In absolute terms, these are currently around 350 million people willing to migrate, mostly young men. By 2050, their number will increase to around 950 million. An increasing number of so-called "failed states" and missing birth controls contribute to this almost insoluble situation.</p> <p>Against this problem background, it is obvious that migratory movements from Africa to Europe can, to the extent expected, destabilize our continent within a few years. Flat rates of immigration for part of the populations willing to emigrate are ethically irresponsible, because at the same time the vast majority are rejected. Political demands in this regard are therefore pseudo-humanitarian and self-destructive.</p> <p>Individual protection and asylum guarantees were created in 1949 for persecuted individuals. They promise the impossible in today's conditions of mass, globalized migration. They cannot be sustained.</p> <p>The aim of the AfD is self-preservation, not self-destruction of our state and people. (p. 37)</p>
<p>Family and demographic policies, in particular an “active family policy”, and the reduction of the brain drain of qualified workers from Germany should have priority over immigration. We want to decide for ourselves who comes to us, and only allow qualified immigration as needed. Determining the quality and quantity of immigration is an outstanding feature of state sovereignty; that must also apply to Germany. (p. 38)</p>	<p>The borders must be closed immediately in order to end the unregulated mass immigration into our country and its social systems by asylum seekers who are mostly unemployed, as soon as possible. Successful adaptation of all these people, including a significant proportion of illiterates, is impossible. In this regard, we need a minus immigration over several years.</p> <p>(p. 38)</p>
<p>Islam does not belong to Germany. The AfD sees a great danger to our state, our society and our system of values in the spread of Islam and the presence of more than five million Muslims, whose numbers are constantly growing. Former Chancellor Schmidt has correctly recognized this fact in his political assessment and formulated it already in 2008: “Whoever wants to increase the numbers of Muslims in Germany, accepts an increasing endangerment to our inner peace.” (p. 45)</p>	<p>An asylum application should only be allowed to ask who proves his identity. All rejected asylum seekers are due to their countries of origin. The federal government should be responsible for ensuring a uniform administrative practice and overcoming the denial of non-cooperative states. We also call for an annual minimum shedding rate.</p> <p>If the countries of origin refuse to allow their citizens to return, pressure must be put on these countries, for example by cessation of development aid. In the alternative, the migrants must be transferred to receptive third countries. (p. 38)</p>
	<p>The mass abuse of asylum rights must be ended by a constitutional amendment. For the same reason, the obsolete Geneva Refugee Convention and other supranational and international agreements must be renegotiated with the aim of adapting them to the threat posed to Europe by population explosions and migratory flows of the globalized present and future.</p> <p>We demand national sovereignty in every form of immigration. (p. 39)</p>
	<p>5.8 The cost of unaccompanied minor aliens explode</p> <p>Unaccompanied, allegedly underage foreigners (UMA) abuse the immigration and asylum law. Almost all of them are male, and between 50 percent and 80 percent of those who claim to be a minor are actually of legal age. Their crime rate is disproportionately high, and the state is defenceless. They serve as so-called anchor children for later relocation of their families.</p> <p>In 2015, 67 thousand of these foreigners classified as underage were newly registered in Germany and in 2016 over 50 thousand again. (p. 41)</p>

*Table 3: The most relevant (anti) Neo-Malthusianist, “invasion threat” and “endangerment” statements found in the Lega full program*

(anti) Neo-Malthusianist statements	“Invasion threat” and “endangerment” statements
<p>Provide for a budget constraint according to which for the “refugee” the State will not be able to commit resources greater than those destined to a 100% disability pension of an Italian citizen. Not it will also be possible to establish greater contributions for the reception of foreigners than those aimed at policies in support of Italians in poverty which, according to ISTAT, are about eight million, of which one million and 600 thousand families in absolute poverty (which correspond to four and a half million citizens). Especially families with three or more children who should be protected more than the others for a positive demographic policy.</p>	<p>No one should feel compelled to leave their country and their roots for economic reasons. We can really help the most disadvantaged areas of the planet by supporting projects on the ground, certainly not by welcoming everyone. Africa in Italy is not there! Re-establish and implement the number of Identification and Expulsion Centers (CIE) in no less than one for each Region and, at the same time, extend the period for detention at least up to 6 months, in order to make the expulsion executable;</p>
<p>The family is the natural society founded on the union between man and woman, as implemented by the Italian Constitution. The family is the place of fundamental ties, the primary nucleus of the community, it is the cradle of new life, it is the protagonist of the process of collective development and is in effect the first economic subject of society. It is also the primary role of education, care and care of children.</p>	<p>Refusal to disembark for NGOs that are on the margins of the Libyan territorial sea due to an alarm on a self-induced shipwreck and a prelude to the exploitation of illegal immigration. Ban anyway disembarkation from NGO ships for passengers who do not have identification documents.</p>
<p>Italy has the lowest birth rate in Europe. <b>Since 2008, births in Italy have fallen, within a trend that has ancient cultural origins, determined by a certain Neo-Malthusian culture that considers man as a “cancer” of nature, almost a ‘Threat’ to the limited resources of the globe.</b> Result: the decline is unstoppable and above all in recent years there have been record slumps in the number of new borns, who are alarming: births are indeed the engine of demand, therefore an essential stimulus for GDP growth.</p>	<p>Prepare a list of countries deemed safe as a limit to accepting applications for international protection. Based on the recent decision of the EU Court of Justice to address new applications for asylum ad other countries given the exceptional number that determines “the real risk of not being able to cope with the situation”.</p>
<p>The progressive and incessant aging of the population has generated an increase in fixed costs (and therefore of the taxes), an increase in the retired population, a decline in the working-age population. To stop this terrible domino effect, the proposal is a structural recovery plan for the birth rate, which passes through:</p> <ul style="list-style-type: none"> <li>• Recognition of 400 euros per month (tax-exempt) for parents for each new born.</li> <li>• The contribution will be reserved for Italian citizens with at least 20 years of residence in Italy and will cover up to the age of eighteen years of age of the child.</li> <li>• Kindergartens free for all children born from Italian and foreign families residing in Italy for at least five years. For entry into asylum, income is not discriminating, as long as it is below 50 thousand euros gross, but the employment of both parents. Incentives for condominium and company crèches</li> </ul>	<p>Make agreements also with the tribes of southern Libya, and ask for the cooperation of Russia for possible agreements with General Khalif Haftar. Application of the Spanish protocol for strict control of borders on the sea, with technological tools and consequent externalization of borders.</p>
<p>Overall, current investments will be tripled by family and demography. If in fact today the allocation is less than 1 percent of GDP (among the lowest in Europe), the measures provided for in this program make up almost 3 percent of GDP, a percentage that would align our country with the most advanced standards in Europe.</p>	<ul style="list-style-type: none"> <li>• The current immigration flows, imposing and uncontrolled, destabilize our country from a social point of view and offer opportunities for terrorist infiltration and extremist propaganda.</li> <li>• The phenomenon can be partially contained by bilateral agreements with countries of transit and departure; in particular, the agreements with the latter should include policies to contain the birth rate to curb overpopulation.</li> <li>• Cooperation alone cannot stop migrants: in fact, behind the great migratory flows that we see starting from Africa there is also a phenomenon of intense local development (the people who can afford the journey to Europe increase with the growth of financial resources); it is therefore necessary to intervene in the field of control and deterrence.</li> <li>• External border surveillance initiatives, repression of human trafficking and repatriation of illegal immigrants (the latter being well publicized to deter others from the choice to emigrate).</li> <li>• Asylum policies, designed for a time of reduced immigration, should be rethought in a restrictive sense and leaving (in line with the final declaration of the last G7) full sovereignty on its borders.</li> <li>• Migration policies should favour entry from culturally similar countries, selecting individuals with the most sought-after professional qualifications.</li> <li>• The acquisition of citizenship should take place in the face of an effective naturalization, made up of socio-economic integration and cultural assimilation.</li> </ul>

## 5. DISCUSSION AND CONCLUSION

As the name of the paper suggests, Kaplan’s discourse is the one of imminent anarchy and chaos. Kaplan's work, published about a quarter of a century ago, as an example of by its posture

defensive, by the political and military elites imposed discourse of environmental geopolitics, exclusivist by its nature, developed by the “official” intellectuals (the intellectuals of statecraft), and perceiving the present and future environment as a threat, was in the intellectual circles criticized primarily by S. Dalby (1996, 1999), who offered a critical perspective that opposes environment degradation. Dalby perceives the environment as a resource, being a proponent of the critical geopolitics’ framework, the inclusive environmental geopolitics precisely. Reading *The Coming Anarchy*, Dalby (1996: 472-496) identified clear notions of geopolitical thought associated with contemporary Malthusianism (called Neo-Malthusianism), which can be traced in Kaplan’s work, which refers to warning about the “barbarian hordes” that will “overrun” and “overflow” the developed world due to difficult living conditions in areas where they reside. The traditional concept of national security would call for mobilization and “consolidation” against the “flood” in order to “defend” against the “invasion” (Dalby, 2009). And it is precisely what we intend to search for in the programs of the contemporary European right-wing populist parties, in order to establish the intellectual connection between the defensive geopolitical thought, Neo-Malthusianism and the present-day populism. A logical question also comes up: Did Kaplan’s famous work inspire the rise of the modern right-wing populism in Europe (and in the U.S.A., Brasil etc.) fuelled by Neo-Malthusianism which he advocates, and are the conditions in Africa and the Middle East partially to blame for that? Therefore, the paper also opens the question, to put it differently: Did the present-day populists, even if they have not read Kaplan, unintentionally took his ideas and put them into their programs, and if it so, up to which point? We have analysed the most recent electoral programs (for general elections) of the German AfD and the Italian Lega. From the programs, we have taken excerpts that we found to be relevant for our analysis and the main research question – how well do certain parts of the mentioned programs correspond with the R.D. Kaplan’s idea of a “coming anarchy” and how much neo-Malthusianism and the notions of “necessary defence” against the “biological invasion” are present in these programs. We have found a substantial number of citations from the programs and from the Kaplan’s paper, compared them, and shown that there indeed is a correspondence present i.e. the programs of the AfD and the Lega contain the neo-Malthusianist considerations and the need for “defence”, thereby these are defensive geopolitical discourses. We consider this research of ours to be a pilot research of the problematic. Further research should be done using the analytical tools of qualitative and quantitative language analysis in for example, analysing the speeches of the leaders of the respective political parties.

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## MANAGERIAL CHALLENGES DURING THE COVID-19 PANDEMIC ON THE EXAMPLE OF THE CROATIA AIRLINES GROUP

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### ABSTRACT

*Purpose of this paper is to present an analysis of the financial sustainability of operations and the challenges of managing Croatia Airlines d.d. and its affiliates in the observed time period with an emphasis on the analysis of the current crisis caused by the pandemic of a new strain of coronavirus. In the first part of the paper, a theoretical framework of managerial characteristics of modern business operations is set. After that, an analysis of the financial sustainability and operations of the Croatia Airlines Group in the observed period is made, with suggestions and alternative strategic management solutions for the company in the future. Croatia Airlines, as the national airline of the Republic of Croatia, represents an important aspect of the Croatian transport infrastructure from its establishment three decades ago until today. Due to poor business results, the company has already undergone a restructuring process with the aim of achieving business sustainability. However, the conclusion of financial analysis indicates significant financial difficulties of the company, which were further exacerbated by the current crisis. However, it should be noted that the current crisis is unprecedented in the history of the air transport industry. In this sense, the positive aspect is the strong interest of the owner, the Republic of Croatia, in supporting the company in the current circumstances, as well as future directions of development. In addition to the urgent financial assistance package that should enable business continuity, efforts should be made to select the best recovery strategies and future alternative development that will enable long-term improvement of the competitive position and financial sustainability of the Group's operations.*

**Keywords:** *croatia airlines, managerial economics, crisis, restructuring, covid-19*

### 1. MANAGERIAL ASPECTS OF MODERN BUSINESS

Modern business organizations exist as a set of interdependent and interconnected interactions of their internal components and changing external environment. Modern business dynamic systems strive to adapt constantly with a basic aim of surviving as a whole. As their connections are complex, the unprecedented speed of nonlinear change in all aspects of their existence further emphasizes their unpredictability and path dependency. As complexity increases, so does the uncertainty, and with greater uncertainty, manager's effective control loses clear boundaries. The traditional theories of the firm assumed the enterprise as a mechanistic set of parts that are hierarchically managed by rational and standardized rules with the aim of increasing efficiency which should ultimately cause profit maximization. Later, Coase and Williamson, within the framework of transaction cost theory, mentioned complexity in the context of information asymmetry and vertical boundaries of the firm. Only the development of behavioral theory of the firm emphasized the importance of managing complexity in a situation of growing uncertainty that conditions constant change. The main reason for the existence of the company, viewed as a complex system composed of parts that have a correlation with each other, was assumed to be the realization of long-term survival.

Given the differences in market characteristics and ways of doing business over time, it is possible to identify several characteristic periods throughout history. In the early 1950s, almost everything produced could be sold, so the main goal of the business was to increase performance. In the seventies, the market was saturated, the crisis was caused by the oil shock and the rise in energy prices, so the balance of supply and demand marked the need to find new ways of allocating resources and their rational use. From the 1990s until today, the trend of increasing supply over demand has continued and intensified, so that supply in some sectors exceeds demand by several tens of percent. Modern companies are thus forced to find new ways to attract customers and improve their offer, or to continuously create new added value while improving business efficiency and effectiveness.<sup>1</sup> Peter Drucker generally distinguished effectiveness as doing the right things, while efficiency as doing things right.<sup>2</sup> Every company strives to pursue the right goals while increasing and improving the efficiency of its business and sales processes. However, by insisting on maximizing efficiency, many companies lose their strategic focus on effectiveness that causes negative consequences on their performance and competitive position in the long run. Modern companies are basically a complex whole of diverse parts. The technical term "complexity" is associated with the term "diversity", ie "multitude", which denotes the number of different states or behaviors of a particular system. Complex, nonlinear systems cannot be decomposed into parts because the characteristics of the parts do not match the characteristics of the whole. Complex systems therefore represent a synergistic action of parts of the system because their parts by their activity achieve their own, but also the goals of the whole. Systems that show high synergy are more resistant to external influences. Synergistic action also minimizes the possibility of internal conflicts.<sup>3</sup> The basic features of modern business are shown in Table 1.

*Table following on the next page*

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<sup>1</sup> Rupčić N. (2016) *Upravljačka ekonomika - teorija i praksa*. Zagreb: University of Rijeka, Faculty of Economics, p. 2.

<sup>2</sup> Drucker P. (2002) *The Effective Executive*. New York: HarperCollins Publishers Inc.

<sup>3</sup> Rupčić, N., *op. cit.*, p. 7.

Table 5: Characteristics of modern business

Fundamental features	Methods of action and influence
Business based on the collection, processing and manipulation of information	<ul style="list-style-type: none"> <li>• Implementation of an environmental scanning and information collection system</li> <li>• Implementation of a knowledge management system</li> <li>• Development of organic organizations that encourage knowledge exchange</li> <li>• Develop a culture of learning based on the values of learning and knowledge exchange</li> <li>• Network and anticipatory management based on knowledge and real time access to information</li> </ul>
Internalization of business and partnerships formation	<ul style="list-style-type: none"> <li>• Expansion of business abroad on the basis of acquisition or opening of branches and entering into partnerships</li> <li>• Connecting with different partners through virtual platforms</li> <li>• The emergence of a flexible organization without borders (so-called boundaryless organization) that is transformed according to the circumstances</li> </ul>
Interdisciplinarity	<ul style="list-style-type: none"> <li>• Business based on the synergy of different disciplines, especially management, psychology, sociology, informatics, etc.</li> <li>• Triple helix model, ie the cooperation of the economy, the public sector and the academic community on the development and implementation of knowledge and the development of the welfare society, especially on the basis of the so-called smart specialization</li> </ul>
Individualization of work	<ul style="list-style-type: none"> <li>• Delegating tasks to employees</li> <li>• Job enrichment</li> <li>• Employee involvement in decision making</li> <li>• Empowering employees, ie giving responsibility for independent work, learning and change management</li> <li>• Work in cross functional autonomous teams</li> </ul>

Source: Rupčić N. (2016) *Upravljačka ekonomika - teorija i praksa*. Zagreb: University of Rijeka, Faculty of Economics, p. 3.

Based on the concept of diversity, Ashby defined the Law of requisite variety, which reads: „only variety can absorb variety”.<sup>4</sup> This law can be explained as follows: in order to keep a complex system under control, the control system must exhibit a diversity that is greater than or equal to the diversity of the system to be controlled.<sup>5</sup> This basically means directing towards a variety of behaviors to compensate for the complexity of the environment. Precisely in the diversity of behavior is the source of opportunities for business sustainability, ie improving current and future efficiency and effectiveness. Diversity of behavior is therefore a source of competitive advantage for modern companies.<sup>6</sup> In business in general, competitive advantage is an attribute that allows a company to outperform its competitors by implementing different strategies, adapting to the market structure in which it operates, and developing success potentials that are difficult to imitate. In the 1980s, Michael Porter defined two generic strategies by which an organization can achieve a competitive advantage: a cost leadership strategy and a differentiation strategy.<sup>7</sup> If a company utilizes a cost leadership strategy, it gains an advantage by providing products and services at lower costs compared to the competition,

<sup>4</sup> Ashby, W.R. (1956) *An Introduction to Cybernetics*. London: Chapman & Hall

<sup>5</sup> Rupčić, N., *op. cit.*, p. 7.

<sup>6</sup> *Ibid.*, p. 8.

<sup>7</sup> Porter M. E. (1998) *The Competitive Advantage: Creating and Sustaining Superior Performance*. New York: The Free Press

while the strategy of differentiation sets the company apart from its competitors when it is able to provide unique and higher quality products and services. Likewise, according to Porter, if a firm places emphasis on certain market segments in the context of the aforementioned strategies, it is still possible to identify a focus strategy. In the 1990s, resource theory emerged in response to an earlier approach primarily focused on the role of market power in explaining the existence of sustainable competitive advantages.<sup>8</sup> In his papers, Jay Barney emphasizes the importance of strategic resources that a company can use to achieve sustainable competitive advantages. Such an approach focuses managerial attention on the company's internal resources with the goal of identifying those assets, core skills, and competencies that have the potential to create superior competitive advantages. By modeling and achieving competitive advantages, the success and value of the company itself is directly shaped. Therefore, despite the conceptually different frameworks for defining competitive advantages, the most important role of top management remains the creation of preconditions for their identification, formation, development and management that will enable greater success in relation to competition and ultimately long-term survival. In the context of the aforementioned diversity of behavior of individuals, groups and organizational subsystems, Conant-Ashby's theorem should also be mentioned, which is derived directly from the Law of requisite variety, which reads: "Every good regulator of a system must be a model of that system."<sup>9</sup> It follows that the result of a management process cannot be better than the model on which the management of that process is based, except by chance. Therefore, it follows that the management activity should be based on a specific model.<sup>10</sup> Considering the principle of time responsibility, it is possible to distinguish three levels of management: the level of operational, strategic and normative management. Management of modern complex business systems can therefore be based on the implementation of the so-called Model for Systemic Control.<sup>11</sup> Each of these levels develops criteria or management variables that are appropriate to that management level. There are interrelationships between these levels: higher-level control variables have a pre-control effect on lower-level variables. In view of the above, the management control system has the features of anticipatory control of the entire management process.<sup>12</sup> The control variables considered by the operational management level are liquidity and profit. A higher, strategic management level deals with the prerequisites for making a profit. At this level, therefore, factors that can provide potentials to create profitability and value both in the present and in the future are considered. In the long term, within the scope of the normative management level, it is necessary to consider the potential of companies to create value in the future, in terms of current availability of solutions to expressed or latent consumer needs, solutions that are still in development or solutions that are potentially available, ie are still in the research phase. Ultimately, it is necessary to summarize the criteria of the stated management levels. At the operational level, the relevant criterion is efficiency in terms of monitoring the level of revenues and expenditures, but also productivity and quality of supply. At the strategic level, the criterion represents effectiveness, while at the normative level, the general criterion is legitimacy, defined as the ability to meet the requirements of stakeholders in the long run.<sup>13</sup> Therefore, management at lower, operational levels is focused primarily on business results and the required level of liquidity in the short term. In contrast, the strategic management level deals with the company's market positioning, ie the identification of existing and new success potentials that will lead to

<sup>8</sup> Barney, J. (1991) Firm Resources and Sustained Competitive Advantage. *Journal of Management*. 17 (1): pp. 99–120.

<sup>9</sup> R. C. Conant & W. R. Ashby (1970) Every good regulator of a system must be a model of that system. *International Journal of Systems Science*., Vol. 1, No. 2, pp. 89–97.

<sup>10</sup> Rupčić, N., *op. cit.*, p. 9.

<sup>11</sup> Schwaninger, M. (2000) Managing Complexity – The Path Toward Intelligent Organizations. *Systemic Practice and Action Research*, Vol. 13, No. 2, pp. 207-241.

<sup>12</sup> Rupčić, N., *op. cit.*, p. 10.

<sup>13</sup> *Ibid.*, pp. 10-13.



profitability in a particular market in the medium term. A close managerial framework for defining success factors is the core competency model formulated by Prahalad and Hamel, which differs from the previously mentioned concepts of achieving competitive advantage. They defined core competencies as coordinated combinations of different resources and skills that differentiate a company in the market and thus create a basis for building a competitive advantage.<sup>14</sup> Finally, the normative level through the analysis and formation of new success potentials in the future aims at long-term survival and development of the company. Every aspect of the business of modern companies has the characteristics of entrepreneurial activity, ie continuous improvement and innovation based on the learning process. The knowledge acquired through the learning process is the basis for adaptation, anticipation of change, management of processes and human resources, and innovation activities.<sup>15</sup> Therefore, entrepreneurial education is especially important in the development of entrepreneurial activity because it enables the combination of experimental learning, skills development and most importantly, the change in the way of thinking of individuals.<sup>16</sup> Therefore, the learning of a particular organization can be defined as a general process of accumulating common and tacit knowledge, which allows the development of improved and new competencies for solving management problems, and which is ultimately a necessary prerequisite for growth and development. According to Rupčić, the concept of learning organization, ie learning enterprise, is a framework that can integrate and organizationally realize knowledge related to paradigm shift and methods of managing organizational complexity in order to create a competitive advantage, ie excellence based on behavioral diversity.<sup>17</sup>

## **2. CHALLENGES OF MANAGING THE CROATIA AIRLINES GROUP DURING THE COVID-19 CRISIS**

### **2.1. Basic information about the company**

Croatia Airlines is the state-owned flag carrier airline of Croatia based in Zagreb. It provides passenger, goods and mail air transport services, as well as aircraft maintenance and professional education of aviation personnel. Croatia Airlines is a medium sized European airline, with a modern fleet and high quality service, safe and reliable, which takes care of environmental protection and is sensitive to the needs of its customers and the wider community. At the same time, Croatia Airlines is the Croatian national airline, which continuously contributes to the development of Croatian tourism and economy and which in its work promotes the principles of business excellence and business ethics.<sup>18</sup> As a national airline, the company makes an important contribution to the development of Croatian tourism because it enables year-round connection of Croatian destinations and Croatia with the world. Croatia Airlines transports almost one third of all tourists who travel to Croatia by air annually, and the company is the fifth largest exporter in the Republic of Croatia.<sup>19</sup> As at 30 June 2020, the ownership structure of the Company was as follows: Ministry of State Assets for the Republic of Croatia - 97.20%; Zagreb Airport d.o.o. - 1.72%; HPB for the Republic of Croatia - 0.63%; and Others - 0.45%. Croatia Airlines has ownership stakes in two companies whose activity complements the service of providing passenger transport in aviation.

<sup>14</sup> Prahalad, C.K. & Hamel, G. (1990) The core competence of the corporation. *Harvard Business Review*, V. 68., No. 3., pp. 79–91.

<sup>15</sup> Rupčić, N., *op. cit.*, pp. 20-23.

<sup>16</sup> Mikić, M., Sopta, M. & Horvatinović, T. (2018) The role of entrepreneurial education in the development of entrepreneurship. *Economy and Market Communication Review*, 7 (2), pp. 385-395.

<sup>17</sup> Rupčić, N., *op. cit.*, p. 24.

<sup>18</sup> Croatia Airlines (2020) *Business principles: Corporate identity* [online]. Retrieved from:

<https://www.croatiaairlines.com/hr/O-nama/Korporativne-vrijednosti/Nacela-poslovanja> [2020, August 12]

<sup>19</sup> Croatia Airlines (2020) *Annual report of Croatia Airlines d.d. and the Croatia Airlines Group for 2019*, p. 5., [online]. Retrieved from: <https://prev.zse.hr/UserDocsImages/financ/CRAL-fin2019-1Y-REV-K-HR.pdf> [2020, August 12]

These are Amadeus Croatia d.d. and Obzor putovanja d.o.o.<sup>20</sup> At the end of June 2020, Croatia Airlines had a fleet of 13 aircraft: seven Airbus aircraft, of which two Airbus aircraft (A320 and A319) were under operating lease, and six Q400 aircraft also under operating lease.<sup>21</sup> Croatia Airlines is a joint stock company with a share capital of HRK 277.879.530, with a total number of 27.787.953 ordinary shares with a nominal value of HRK 10.00. The internal organization is composed of the Management Board, the Supervisory Board and the General Meeting of Shareholders. The annual report of the Company states that according to the Articles of Association, the Management Board consists of at least one member and at most three members, while the membership of the Supervisory Board consists of five members, one of whom is a representative of employees. Jasmin Bajić is the President of the Management Board (also CEO), and the President of the Supervisory Board is Zlatko Mateša. Company operations are organized through business functions grouped into business units and through joint functions of the company organized within the Administrative Office, the Office for Quality and Safety Management, the Office for Crisis and Emergency Management, the Controlling and Internal Audit Sector and corporate functions including the Finance and Accounting Sector, Legal Affairs Sector, Human Resources and Asset Management Sector and Information Technology Management Sector. The business unit of transport includes flight and cabin operations, traffic school center, operational center with crew plan, operational engineering, ground operations service and traffic administration. The business unit of engineering includes engineering and technical support, materials management, preparation and control of works, base and line maintenance, maintenance of aircraft parts and equipment, and a technical school center. Commercial operations and network and revenue management are part of the third business unit.<sup>22</sup>

## 2.2. Financial stability of the Croatia Airlines Group

An analysis of the financial situation of the Croatia Airlines Group will be conducted below with the aim of insight into the financial condition and stability of the Group. Analysis is based on the consolidated audited annual reports of the Group, except in the case of the report for the first half of 2020, which was not audited. Total revenues and expenses of subsidiaries participate in consolidated revenues and expenses with less than one percent, which shows an insignificant impact of the operations of subsidiaries on the operations of Croatia Airlines. For this reason, the analysis is performed at the Group level. The financial analysis is based on a horizontal and vertical analysis of the basic financial statements: the balance sheet and the income statement. Likewise, an analysis of individual financial indicators organized into six groups is carried out: income-expenditure ratios, profitability, liquidity, debt, activity and investment ratios. Furthermore, the basic DuPont analysis is used to decompose the return on equity. Finally, an analysis of Altman's Z score model and its variations as a synthetic indicator indicating the risk of bankruptcy is presented. A complete view of the company's operations and making more comprehensive and reliable conclusions implies an assessment of the company's operations over a longer period of time (minimum five years).<sup>23</sup> Therefore, the analysis covered the time frame of the period from 2015 to mid-2020. Horizontal analysis is the basis for noticing the tendencies and dynamics of changes in individual positions of the basic financial statements.

<sup>20</sup> Croatia Airlines (2020) *Consolidated and separate business reports of Croatia Airlines d.d. for the period January - June and II. quarter 2020*, p. 28., [online]. Retrieved from: <https://prev.zse.hr/UserDocsImages/financ/CRAL-fin2020-1H-NotREV-K-HR.pdf> [2020, August 12]

<sup>21</sup> Ibid., p. 14.

<sup>22</sup> Croatia Airlines (2020) *Annual report of Croatia Airlines d.d. and the Croatia Airlines Group for 2019.*, op. cit., pp. 8-9.

<sup>23</sup> Žager, K. et al. (2017) *Analiza financijskih izvještaja: načela, postupci, slučajevi*. Zagreb: Hrvatska zajednica računovođa i financijskih djelatnika, p. 274.

Based on the observation of these changes, the performance and business security of the observed company are evaluated.<sup>24</sup> The horizontal analysis compares data from the financial statements for two or more business years or accounting periods. The horizontal analysis below is based on absolute and relative changes from the previous year. Based on the data from annual reports of the Croatia Airlines Group in the period from 2015 to the first half of 2020, a horizontal balance sheet analysis was performed. It is noticeable that total assets recorded a slight increase of 1.7% in 2016 compared to the previous year. A significant increase of HRK 42.5 million was recorded in intangible assets, while tangible assets decreased by HRK 17 million. Fixed assets were higher due to regular investment maintenance of the fleet. Current assets did not record significant changes. Within the sources of assets in the same period, an increase in capital and reserves was visible, which was affected by a higher level of legal reserves. Provisions recorded a slight increase due to a new provision for a dispute with a sales agent, while long-term liabilities decreased due to a decrease in bank liabilities. Short-term liabilities grew by 7% or HRK 27.6 million due to a significant increase in accounts payable. After that, in 2017, assets decreased by -2.8%. Intangible assets increased by 88% or HRK 59 million. However, tangible assets were reduced by almost HRK 74 million due to the adjustment of the market value of the aircraft. Current assets decreased by 2.4%, ie HRK 4.7 million due to the impact of a decrease in inventories of raw materials and supplies, while cash and accrued expenses, ie accrued and uninvoiced revenues to customers, recorded a significant increase. Looking at the sources of assets, it can be seen that capital and reserves increased almost identically as in the previous year due to the positive result, while provisions achieved a significant increase of HRK 32 million due to the payment of airport taxes. Long-term liabilities decreased due to loan repayments in the same amount as in the previous year; HRK 15.3 million. Short-term liabilities were lower by HRK 44 million due to a decrease in accounts payable and other liabilities despite an increase in liabilities to banks by HRK 21 million. In 2018, compared to 2017, total assets grew by 3.2%. Intangible assets increased by slightly less than HRK 13 million, and tangible assets by almost HRK 40 million due to investments made in its own fleet and leased aircraft. Current assets did not change significantly, however, there was a decrease in the level of money by almost 50% with an increase in inventories, receivables and financial assets. Liabilities structure indicated a decrease in capital and reserves by 21% due to the negative operating result. Provisions were reduced by paying airport taxes, while long-term liabilities were significantly increased by a new borrowing of HRK 40.1 million. The purpose of the loan was to finance the investment maintenance of the engines. Short-term liabilities increased by HRK 55 million, mostly due to the growth in accounts payable and liabilities to banks. In 2019, compared to 2018, there was a significant increase in total assets. Assets increased by almost 46%, while total fixed assets increased by 61%. The reason for this is the application of IFRS 16, ie the change in the accounting treatment of operating leases, which recognizes tangible fixed assets in the books as assets with the right of use and a lease liability. Current assets did not fluctuate significantly in the period. Due to losses in 2019, capital and reserves were down by almost 26%. Revenues from cost provisions significantly reduced provisions; a total of HRK 29 million. Due to the application of the new accounting standard, the lease liabilities within the long-term liabilities have increased in parallel in the amount of the present value of the lease payment obligations until the expiration of each contract. Within long-term liabilities, the first part of the shareholder loan of the Republic of Croatia in the amount of HRK 100 million for business stabilization was reported. The growth of short-term liabilities of 8.8% was also caused by the recognition of a part of lease liabilities. In the first half of 2020, when the company is impacted by the crisis caused by the coronavirus, total assets are lower by 0.9% compared to the end of 2019. Intangible assets increased by 11 million, while tangible assets decreased by 68 million, mainly due to investments in leased

<sup>24</sup> Žager, K. et al., *op. cit.*, p. 268.

engines for the Airbus fleet, lower total investments and with regular write-offs. The decline in financial assets of 9.4% is a consequence of lower level of long-term deposits and the adjustment of the value of financial investments. Current assets increased by 29%, ie HRK 55.7 million due to the increased cash balance because of the second part of the state shareholder loan payment in the amount of HRK 150 million intended for business stabilization. Sources of assets have shown a strong decrease in capital and reserves compared to the end of 2019 in the amount of almost HRK 176 million, which was caused by a negative business result. Long-term liabilities increased by 24.5% due to the use of the second part of the shareholder loan of HRK 150 million, despite a decrease in liabilities to banks by HRK 20.2 million. Short-term liabilities increased by HRK 34.2 million in total; most notably accounts payable decreased by HRK 91.6 million, liabilities to banks decreased by HRK 12.8 million, while liabilities for taxes, contributions and similar benefits increased by over HRK 20 million, as well as other short-term liabilities which increased by HRK 115.8 million. The growth of short-term liabilities was influenced by a higher level of liabilities for passenger transport. Based on the aggregate profit and loss accounts for the period from 2015 to the first half of 2020, a horizontal analysis of the profit and loss accounts was made. Therefore, it is visible that in 2016 the Group generated HRK 1.57 billion in operating revenues, 0.6% more than in 2015. Operating expenses amounted to 1.56 billion, 1.2% more than the previous year. In the same period, financial income decreased by 15%, although a much smaller absolute amount in total. In the specified period, passenger revenues grew more slowly than the increase in the number of passengers, which is a result of the decrease in the average value of tariffs in the conditions of increasing competition on the Croatian aviation market. Financial expenses, realized at the level of HRK 48.6 million in 2016, decreased by 21% compared to the previous year, primarily due to a decrease in exchange rate expenses. The most significant decrease in 2016 was achieved in fuel costs, which were 13 percent lower due to the lower average fuel price. The most significant increase compared to 2015 is seen in maintenance costs and depreciation costs. Within operating costs, the costs of passenger services and the costs of air transport services also increased. Total revenues in 2016 amounted to HRK 1.62, and total expenditures to HRK 1.61 billion. The profit for the period amounted to HRK 7.56 million, 40% lower than in the previous year. In 2017, operating revenues amounted to 1.78 billion, 13.2% more than in the previous year. The increase was largely due to the sale of part of the slots at London Heathrow Airport for HRK 138 million. Operating expenses also increased by 12.4% or HRK 1.75 billion. The reason for this was the increase in material costs in the amount of HRK 107 million compared to the previous year, together with the increase in costs due to the value adjustment of the aircraft, which was adjusted by HRK 56.9 million. The most significant increase compared to 2016 was achieved by flight costs, other expenses and costs of promotion and sales. Flight costs were higher due to higher fuel prices on the market compared to 2016 and due to higher aircraft rental costs because of the introduction of another additional aircraft in the summer season. In 2017, financial income increased by 38.3%, while financial expenses increased by 67.3%. Total revenues increased by 13.9% and expenses by 14%, so the Group ended the financial year with a profit of HRK 7.4 million, or 2% less than in 2016. In 2018, the Group generated HRK 1.71 billion in operating revenues, ie a relative decrease of 3.6% compared to 2017. Operating expenses increased by 1.9%, mainly due to higher flight costs, maintenance, passenger services, air transport services and depreciation. Flight costs were higher in large part due to increase in fuel costs. Financial income decreased by HRK 10.2 million and financial expenses decreased by HRK 18.5 million. Total revenues in 2018 amounted to HRK 1.77 billion and expenditures to HRK 1.85 billion. Accordingly, the Group incurred a loss of HRK 81.7 million. If we would compare 2017 with 2018 without a one-off sale of HRK 138 million, it is interesting to note that the net loss in 2018 is lower by HRK 48.3 million with a simultaneous increase in fuel costs of HRK 71.3 million.

In 2019, operating revenues grew by 1.7%, while operating expenses grew by 0.4% compared to the previous year. It should be noted that the application of the new accounting standard led to a significant increase in the amount of depreciation that had an effect on business result. Compared to the previous year, depreciation increased by almost HRK 110 million, mostly due to work performed on aircraft. According to the annual report, the net effect on the business result caused by the change in the method of recognizing operating lease amounted to HRK 19.9 million, which is an increase of total costs compared to the previous bookkeeping treatment.<sup>25</sup> Financial income was lower by almost 60%, while financial expenses were lower by 25%. Total revenues in 2019 amounted to HRK 1.76 billion, and expenditures to HRK 1.84 billion. The decrease in revenues in the mentioned period was 0.3%, while expenditures were lower by 0.5%. The Group's net operating result thus amounted to -78.4 million in 2019, ie a decrease in loss by 3.9% compared to the previous year. For the period of the first six months of 2020, company business took place in the extraordinary circumstances of the crisis caused by the pandemic of a new strain of coronavirus that shaped an extremely unfavorable operational and financial result. In the first half of 2020, total revenues amounted to only HRK 365 million, while total expenditures amounted to HRK 540 million. In the current market circumstances, at the end of the observed period, the Group realized a net loss of HRK 174.9 million. The increase in net loss compared to the first half of 2019 is a direct consequence of reduced operations and the reduction in the number of transported passengers. Due to the cost structure, which contains a significant share of fixed costs, as is generally the case in the air transport industry, it is extremely difficult to achieve higher savings. The largest cost reductions were realized in operations-related costs, passenger service costs, sales costs and in various categories of general and administrative expenses and other expenses. Vertical analysis provides insight into the structure of financial statements, ie it involves comparing financial data in one year.<sup>26</sup> It is carried out in such a way that individual items are presented as a share of the corresponding sum. In the case of a balance sheet, the underlying item is total assets, while in the case of a profit and loss account, the underlying item is operating income. Based on the data from the balance sheet of the Croatia Airlines Group in the period from 2015 to the first half of 2020, a vertical analysis of assets and sources of assets was made. Based on this analysis, it is evident that the share of fixed assets is dominant in the structure of assets. By 2018, the share of fixed assets was around 75% of total assets, while after the implementation of the new IFRS 16, the share had additionally increased to over 80%. Of fixed assets, the largest share item were tangible assets, more precisely tools, operating inventory and transport equipment, which is understandable given the company's primary business activity. Intangible assets ranged from a maximum of 16% in 2018 to the current 11% of total assets in the first half of 2020. The share of current assets ranged around 22% until the change in the accounting standard. After 2019, the share fell to 15.1%, and in the last observed period it amounted to 19.6% of total assets, which is an increase due to the use of the shareholder loan. Analyzing liabilities, it can be seen that capital and reserves together with short-term liabilities represent almost all sources of assets. Until 2017, the item capital and reserves had a share of 46.2%, and short-term liabilities a share of 45.2% of total assets. Provisions had a share of 4.2%, and long-term liabilities only 2% in 2017. After the Group recorded a negative operating result in 2018, the share of capital and reserves decreased to 35.4%, the share of long-term liabilities increased to 6.5% and the share of short-term liabilities increased to 50.2% of total liabilities. Within short-term liabilities, the share of accounts payable grew significantly. Due to losses in 2019, capital and reserves decreased further and their share fell to 18.1% of total liabilities. Provisions also decreased to 0.5%. Long-term liabilities recorded an increase in the share due to the use of the first part of the shareholder loan and the change in the accounting recognition of leases.

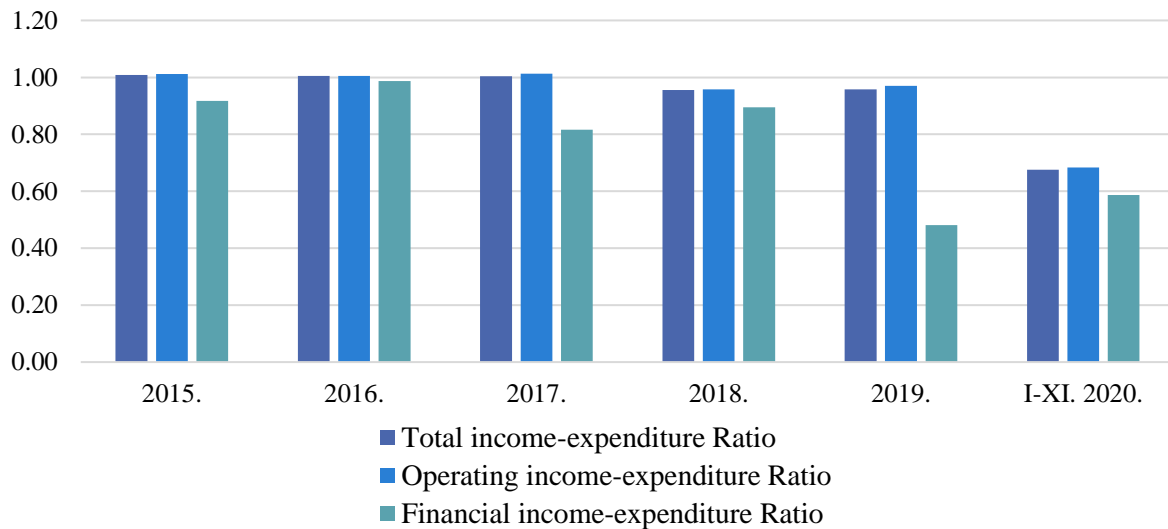
<sup>25</sup> Croatia Airlines (2020) *Annual report of Croatia Airlines d.d. and the Croatia Airlines Group for 2019*, op. cit., p. 35.

<sup>26</sup> Žager, K. et al., op. cit., p. 268.

In the first half of 2020, due to large losses caused by the crisis, capital and reserves fell sharply again to the level of 4.3% of total assets. The share of long-term liabilities increased to 52% due to the use of the second part of the shareholder loan. The share of short-term liabilities also grew to 40.5% of total liabilities. There is a significant decrease in the share of accounts payable compared to the end of 2019. Compared to 2019, there is a large increase in other short-term liabilities, which most likely relate to liabilities for air transport services, ie liabilities based on sold, but not yet used passenger tickets that cease after the provision of service or refund of the appropriate amount to the passenger for returned tickets. Based on annual financial statements of the Croatia Airlines Group, a vertical analysis of the aggregate profit and loss accounts of the Croatia Airlines Group in the period from 2015 to the first half of 2020 was made. It can be seen that sales revenues account for over 90% of operating revenues, with the exception of the last observed period. Other operating revenues were less than 10% throughout the observed period except in 2017 when they reached 15.2% due to the aforementioned slot sales. Operating expenses accounted for almost 99% of operating revenues by 2017. After 2018, when the Group recorded losses, expenses became higher than operating revenues. Within operating expenses, it is evident that material costs and staff costs have the largest share. Material costs represented over 70%, and staff costs about 14% of operating revenues in the entire observed period. Depreciation had a share of 6% until 2019, after which it increased to a share of 12% due to a change in the accounting standard. Other costs ranged from 5-7% of operating revenues. Financial revenues ranged from a maximum of 3.7% in 2017 to a minimum of 1.3% in 2019 under regular circumstances. In the first half of 2020, the relative share of financial revenues and expenditures grew, although they were almost identical in amount to the previous year. The reason for this was the reduced absolute amount of operating income. The devastating impact of the crisis on the Group's operations is evident from the fact that the loss for the period amounted to a relative 51.5% of operating revenues. The standard financial indicators of the Croatia Airlines Group in the period from 2015 to the first half of 2020 will be observed below. Income-expenditure ratios indicate the ratio of income and expenditure, more precisely show how much income is generated per unit of expenditure. Values greater than 1 indicate profit, while values less than 1 indicate loss in the observed segment. Figure 1 shows the total income-expenditure ratio, operating income-expenditure ratio and the financial income-expenditure ratio. It is evident that the Group recorded a positive result until 2017, followed by losses in the next two years and a significant loss in the first half of 2020. In 2017, total revenues amounted to slightly less than HRK 1.85 billion, while total expenditures amounted to HRK 1.84 billion. In the next two years, total expenditures grew with a parallel decline in revenues. Due to the effects of the coronavirus pandemic, in the first half of 2020, total revenues amounted to HRK 365 million, while in the same period in 2019 they amounted to HRK 766 million. Operating income makes up almost all total revenue. Financial revenues contribute to total revenues with a share of a maximum of 3.6% in the period until the end of 2019. It should be mentioned that the Group would have made a loss in 2017 had it not been for the one-off item, the partial sale of slots at London Heathrow Airport in the amount of HRK 138 million. The sale of part of the slots was one of the planned measures from the previous restructuring program.

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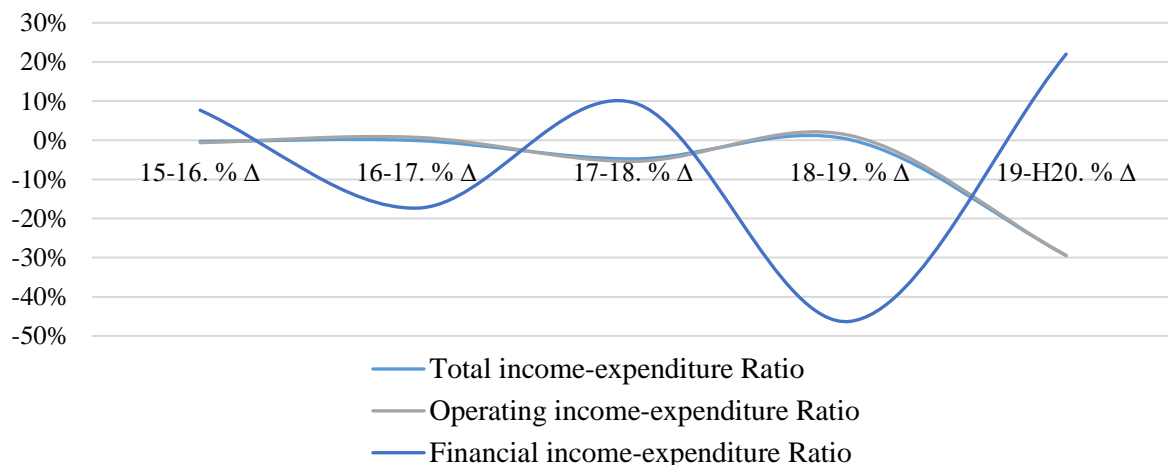
Figure 3: Income-expenditure ratios of the Croatia Airlines Group in the period from 2015 to 2020



Source: authors' work based on the financial statements of the Croatia Airlines Group (2016-2020).

Figure 2 shows the relative changes in income-expenditure ratios. The changes are not sudden in the circumstances of regular operations. However, there was a decline in the total income-expenditure ratio of 4.8% and operating income-expenditure ratio of 5.4% between 2017 and 2018 when the Group made a negative business result. At the end of the second quarter of 2020, the total income-expenditure ratio was lower by almost 30% compared to 2019. Financial income-expenditure ratio recorded significant relative oscillations, but due to the smaller absolute share of financial income and expenses in total income and expenses, it didn't not crucially affect the overall financial situation of the company.

Figure 4: Relative changes in income-expenditure ratios of the Croatia Airlines Group in the period from 2015 to 2020



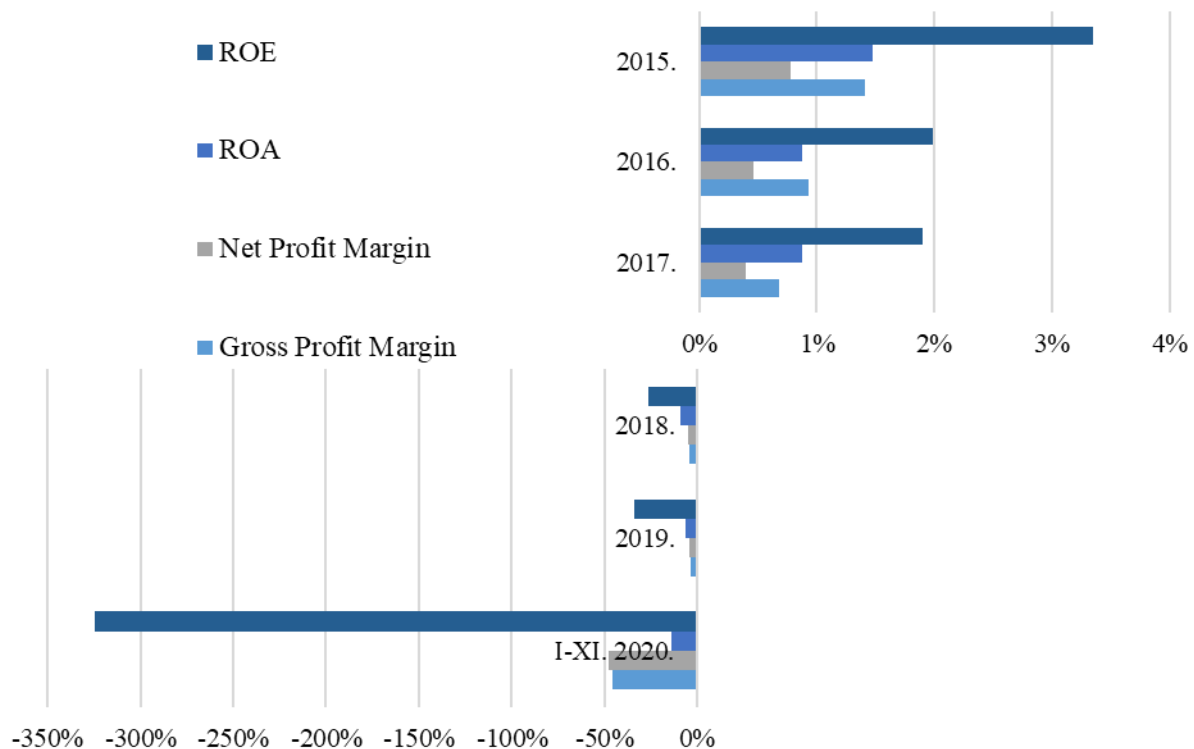
Source: authors' work based on the financial statements of the Croatia Airlines Group (2016-2020).

In the context of profitability indicators, profit margin indicators, return on assets and return on equity are usually considered.<sup>27</sup>

<sup>27</sup> Žager, K. et al., *op. cit.*, p. 52.

They basically indicate the success of a company in achieving a certain level of profit in relation to income, assets or capital. The gross and net profit margins and the return on assets and capital of the Croatia Airlines Group are observed below. Gross profit margin is calculated by dividing earnings before interest and taxes to total sales. It indicates the quality of price, cost and business management in general. The net profit margin takes into account the cost of lending, and is obtained by dividing net profit to total income. Return on assets and capital indicate the efficiency of the use of the company's assets and capital. Figure 3 shows that profit margins and return on assets are quite low with a negative downward trend in the observed period. Until 2017, gross and net profit margins were less than 1%, after which they became negative. Return on assets in 2019 shows that the Group made a loss of HRK -0.06 per one HRK of its assets, while return on equity in the same year shows a loss of HRK -0.34 on each kuna of capital. Due to losses after 2017, the Group recorded unfavorable values of all indicators. Return on equity is extremely problematic because it fundamentally reflects the permanent decrease in the Group's capital caused by losses in 2018 and 2019. The first two quarters of 2020 show the devastating impact of the pandemic on the Group's operations. At the end of the first half of 2020, the Company's capital amounted to slightly less than HRK 54 million, while in 2017 it amounted to almost HRK 390 million.

Figure 5: Profitability indicators of the Croatia Airlines Group in the period from 2015 to 2020

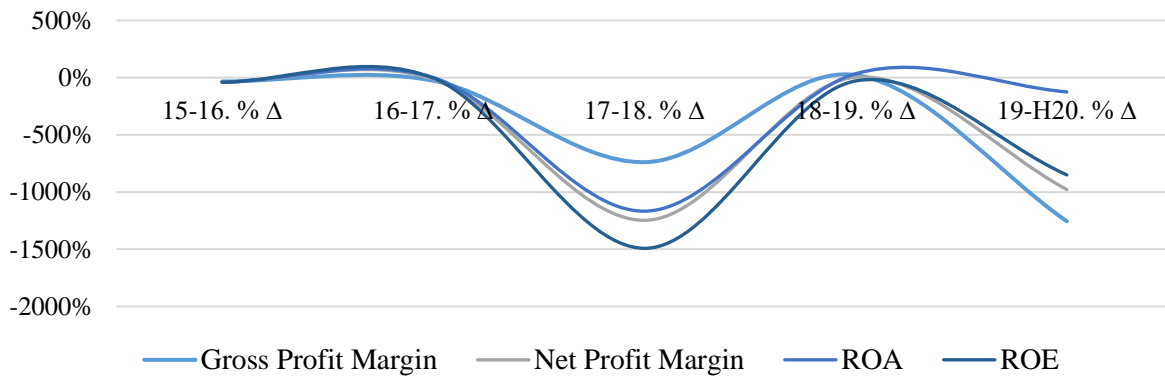


Source: authors' work based on the financial statements of the Croatia Airlines Group (2016-2020).

Figure 4 shows the relative changes in the previously mentioned profitability indicators. It can be seen that all indicators after 2015 recorded a significant negative trend. After an extremely bad 2018, a slight recovery of all indicators except accumulated reduced capital is visible. However, with the onset of the crisis in early 2020, an exponential deterioration of all indicators is noticeable.



Figure 6: Relative changes in profitability indicators of the Croatia Airlines Group in the period from 2015 to 2020



Source: authors' work based on the financial statements of the Croatia Airlines Group (2016-2020).

These margins should be considered in the context of the industry in which the company operates. The air transport industry is generally characterized by low margins, although there are certain oscillations between different geographical parts of the world. To be specific, according to the International Air Transport Association, the umbrella organization for air transport in the world, the gross profit margins for Europe in 2019 were less than 5%. According to forecasts for 2020, global gross profit margins will average -23.4%.<sup>28</sup> Despite the current circumstances of interrupted operations that shaped the indicators in the first half of 2020, it is problematic that profit margins and returns on assets of the Croatia Airlines Group are extremely low in years of positive business, especially when compared to the global and European industry average.

Table 6: Gross profit margins of commercial airlines in the period from 2015 to 2020

	2015.	2016.	2017.	2018.	2019.	2020F.
Globally	8.6%	8.5%	7.5%	5.7%	5.2%	-23.4%
North America	14.4%	13.7%	11.2%	9.1%	9.6%	-21.2%
Europe	5.5%	6.1%	7.9%	6.2%	4.8%	-21.6%
Asia-Pacific	6.9%	7.4%	6.3%	4.7%	3.7%	-27.5%
Middle East	6.3%	2.2%	-3.0%	-4.6%	-5.2%	-21.0%
Latin America	5%	5.6%	6.2%	2.7%	2.9%	-21.7%
Africa	-2.1%	1.1%	0.8%	1.5%	1.0%	-29.0%

Source: IATA (2020).

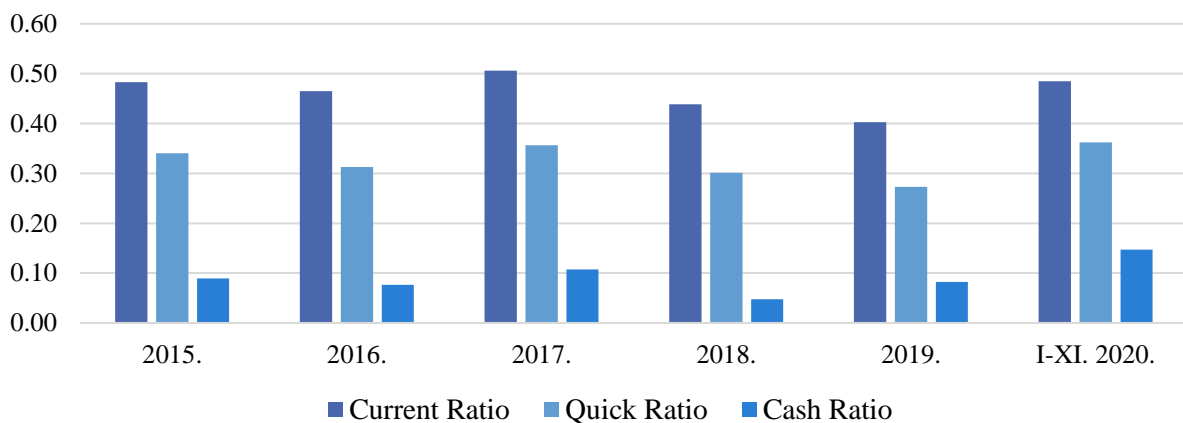
The reason for industry low margins is generally the significant capital intensity characterized by high aircraft acquisition costs and associated maintenance and depreciation costs. The pressure on margins is also generated by strong competition in the market, as well as the emergence of low-cost carriers. Moreover, the dynamics of margins is shaped by the cost structure in which jet fuel has a large share. Therefore, fluctuations in oil prices have a significant impact on industry performance. Liquidity ratios measure a firm's ability in the context of its ability to meet short-term liabilities.<sup>29</sup> Figure 5 observes current, quick and cash liquidity of the Croatia Airlines Group.

<sup>28</sup> IATA (2020) *Industry Statistics: Fact Sheet* [online]. Retrieved from: <https://www.iata.org/en/iata-repository/publications/economic-reports/airline-industry-economic-performance-june-2020-data-tables/> [2020, August 16]

<sup>29</sup> Žager, K. et al., *op. cit.*, p. 45.

It is often considered that they should be as high as possible, however, for optimal management and allocation of funds, it is necessary to take into account the specifics of the industry and the country in which the company operates. It is generally assumed that they should have a value of at least 1. Analyzing industry averages, it is difficult to identify benchmarks for comparison because these indicators vary significantly depending on the size of the firm, the markets in which firms operate, and their current capital structures. The current ratio is a result of dividing short-term assets by the short term liabilities, and measures a company's ability to pay short-term obligations or those due within one year. The current ratio of the Croatia Airlines Group achieved the most favorable value in 2017. Quick ratio, as a more conservative indicator, removes inventories from current assets in the relation, while cash ratio is calculated by dividing cash and cash equivalents by current liabilities. The quick ratio is particularly useful in the analysis of airline companies because they are very capital intensive and highly indebted. It should be noted that in practice it is usually not useful to keep significant amounts of money in bank accounts because it could be utilized in a more profitable way. Quick and cash ratios also recorded the most favorable values in 2017. In the following year, trade payables and short-term liabilities grew, which was reflected in an absolute decrease in the value of the indicators. Trade payables were higher primarily due to obligations for engine maintenance. Inventories were constant throughout the observed period, and amounted to around HRK 60 million.

*Figure 7: Liquidity ratios of the Croatia Airlines Group in the period from 2015 to 2020*

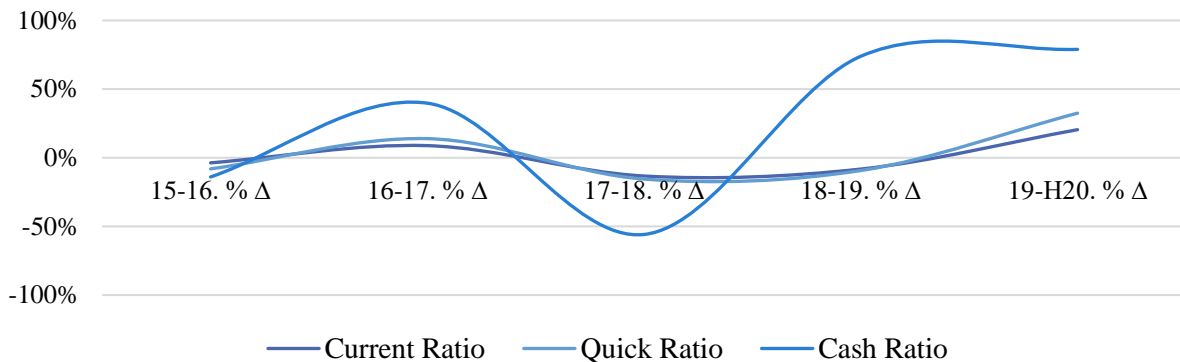


*Source: authors' work based on the financial statements of the Croatia Airlines Group (2016-2020).*

Figure 6 below shows the relative changes in liquidity ratios. It can be seen that all indicators show a positive trend between 2016 and 2017. After that, all indicators deteriorated in the next two years, while in the first two quarters of 2020, they all achieved relative growth. The reason for this was the significant growth of short-term assets. This growth was mostly due to the increased cash balance because of the payment of the second part of the shareholder loan in the amount of HRK 150 million intended for stabilization of operations.

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Figure 8: Relative changes in liquidity ratios of the Croatia Airlines Group in the period from 2015 to 2020



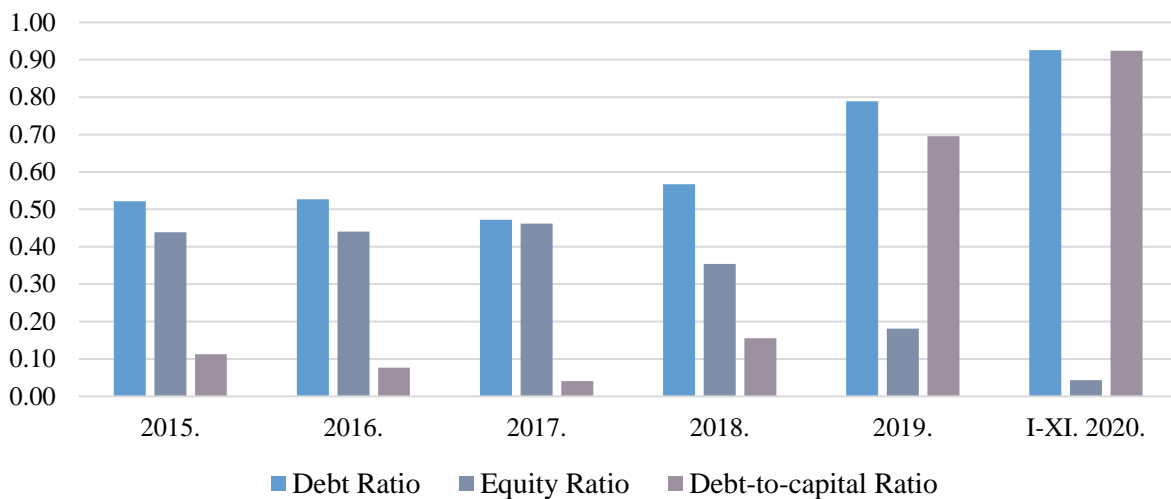
Source: authors' work based on the financial statements of the Croatia Airlines Group (2016-2020).

In the current circumstances of the coronavirus disease pandemic, which has caused flight cancellations, a sharp drop in demand and a general shutdown of regular operations, a major challenge is to maintain the required level of liquidity. Liquidity risk is further accentuated by the inability to predict future changes and the duration of the current crisis. In the context of liquidity risk management, the Group takes cost reduction measures at all levels of the company. According to the semi-annual report, for 11 out of the current 13 aircraft and engine rental contracts, an agreement has been made with lessors about the reduction of the costs of monthly rental installments using the PBH calculation ("Power by the Hour"). Also, reductions in various costs or payment delays have been agreed with other suppliers.<sup>30</sup> Debt ratios analyze the capital structure of the company and indicate the short-term and long-term solvency of the company. The capital structure, on the other hand, affects the achievement of a certain level of company profitability. The debt ratio, equity ratio, debt-to-equity ratio, debt-to-capital ratio and financial leverage factor are shown in Figures 7 and 8. Debt ratios also include interest coverage ratio because it considers the debt from the aspect of the possibility of its settlement. The debt ratio is calculated by dividing the total liabilities by the total assets of the Group, and shows the percentage of the company's assets financed by debt. By 2018, it fluctuated around a stable 0.5, while currently the ratio is 0.93, which means that the Group finances 93% of its assets with debt. Equity ratio indicates the proportion of equity used to finance a company's assets. Losses after 2018 reduced capital after which a deteriorating trend began that culminated in the current crisis. The debt-to-equity ratio is calculated by dividing the Group's total liabilities by its shareholder equity. There is a noticeable trend of sharp deterioration due to the growth of total liabilities and a sudden decrease in capital caused by losses. Long-term liabilities have been multiplied due to the application of IFRS 16, which affected the recognition of lease obligations in the amount of the present value of lease payment obligations until the expiration of each lease. As part of long-term liabilities, the first part of the shareholder loan was reported and paid by the Republic of Croatia in the amount of HRK 100 million for business stabilization. Debt-to-capital ratio is the ratio of the Group's total debt to its total capital, where total capital is the sum of total debts and capital. The values of this indicator are very low, with a visible jump in 2019 due to the aforementioned application of IFRS 16. Financial leverage presented in Figure 8 shows the share of capital-financed assets and is used in the DuPont analysis. In the last two observed periods, a steep increase in value is visible due to the reduction of capital. Interest coverage ratio is calculated as earnings before interest and taxes divided by the total

<sup>30</sup> Croatia Airlines (2020) *Consolidated and separate business reports of Croatia Airlines d.d. for the period January - June and II. quarter 2020*, op. cit., p. 11.

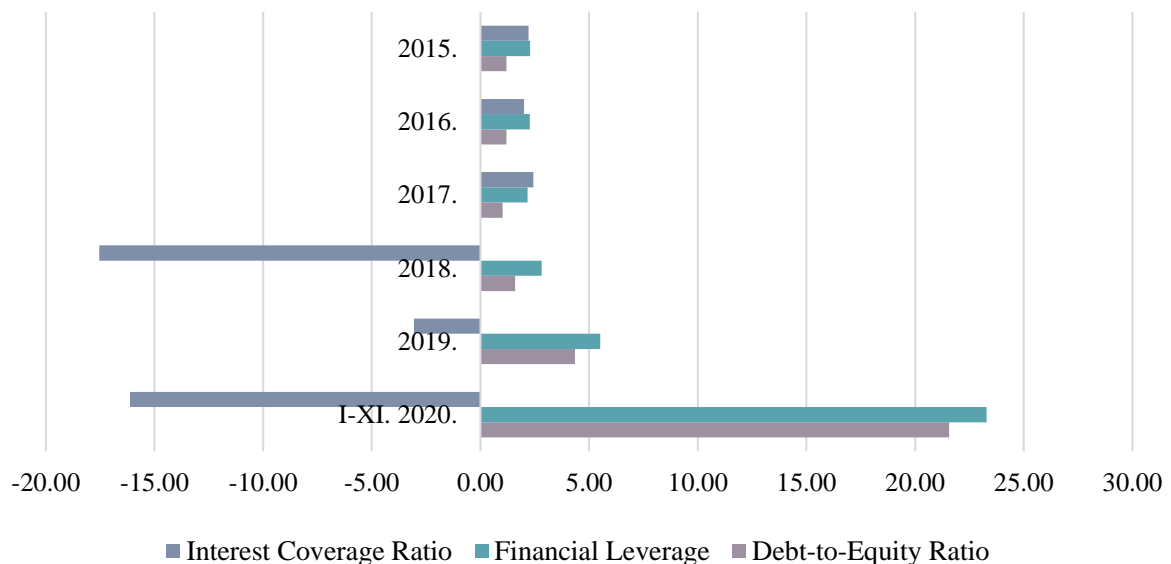
interest expense. It shows how secure the company is in paying interest on its debts. The highest amount of interest paid was in 2019, when HRK 19.5 million in interest was paid. In other years, interest paid was significantly lower, however, due to the negative business result, the ratio is negative. Based on the indicators, it can be concluded that the Croatia Airlines Group is mostly financed externally. Such capital structure is not necessarily bad and does not deviate from the context of the industry. However, the sharp deterioration of all ratios indicates a worrying trend.

Figure 9: Debt ratios of the Croatia Airlines Group in the period from 2015 to 2020 (a)



Source: authors' work based on the financial statements of the Croatia Airlines Group (2016-2020).

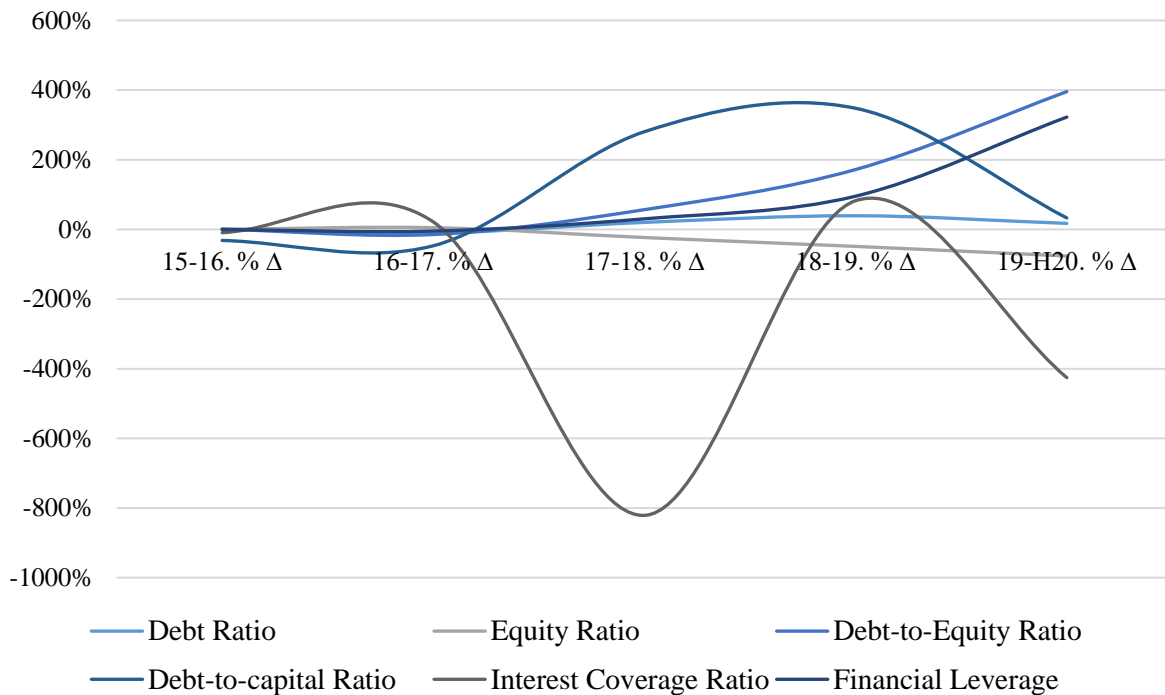
Figure 10: Debt ratios of the Croatia Airlines Group in the period from 2015 to 2020 (b)



Source: authors' work based on the financial statements of the Croatia Airlines Group (2016-2020).

Figure 9 shows the relative changes in the aforementioned debt ratios. It can be seen that practically all indicators are relatively stable until 2017. After that, from 2018 to the last observed period, all indicators recorded a sharp deterioration in value.

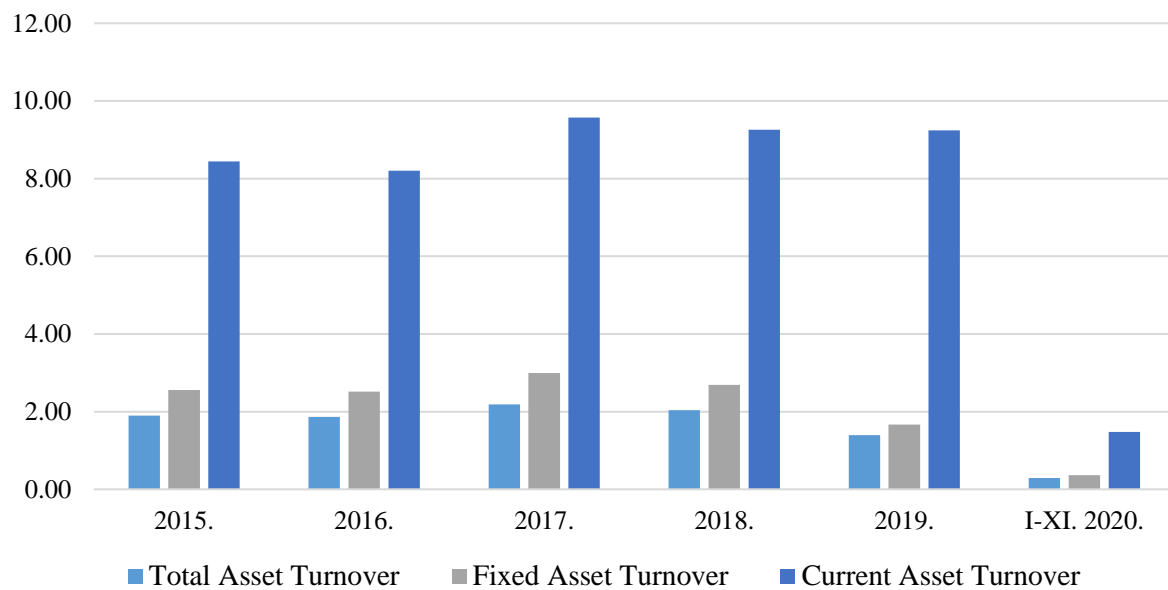
Figure 11: Relative changes in the Croatia Airlines Group debt ratios in the period from 2015 to 2020



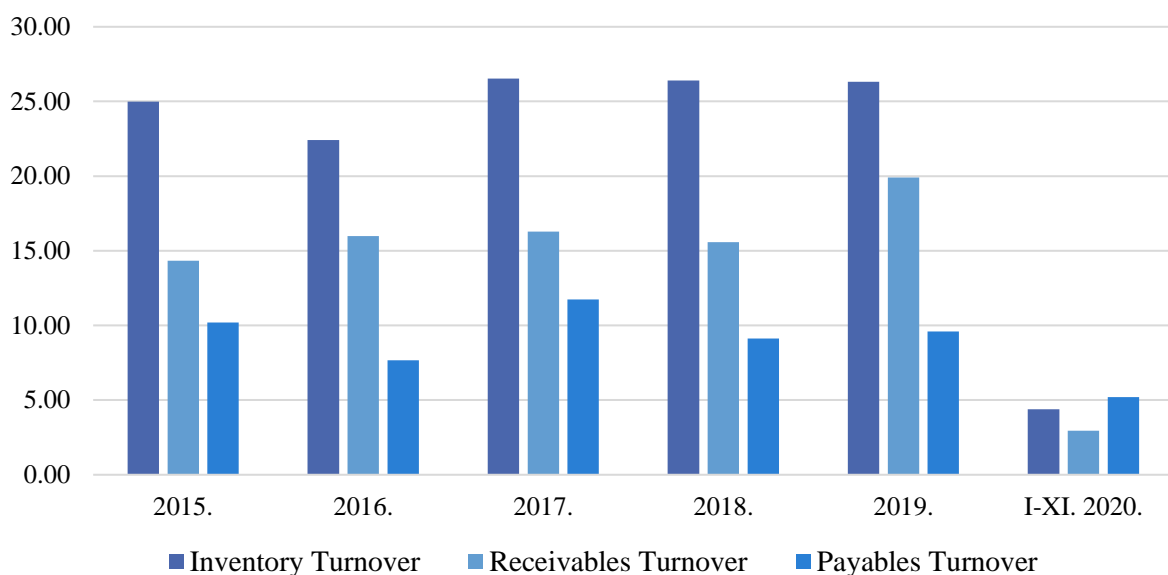
Source: authors' work based on the financial statements of the Croatia Airlines Group (2016-2020).

Activity ratios measure the speed of asset circulation in the business process, ie provide insight into the efficiency of the company in using its resources. Figures 10, 11 and 12 show the asset turnover ratios, inventory turnover ratio, receivables turnover ratio, payables turnover ratio as well as the corresponding cash conversion cycle. The total asset turnover ratio shows how many times a year the company has converted its total assets, ie how many kunas of total revenues it has generated per one kuna of total assets.<sup>31</sup> The share of current assets in total assets is significantly lower than non-current assets, so the current asset turnover ratio has a high value. In 2018, for every kuna of assets, HRK 2.04 of income was generated. After that, there is a sharp decrease in value. In 2019, the decrease is due to the application of IFRS 16, which significantly increased the total assets of the Group. Until the end of 2018, for every kuna of current assets, over HRK 9 of income was generated, while for every kuna of non-current assets, between HRK 2.5-3 of income was earned. The inventory turnover ratio had reached a maximum of 26 in the period until the end of 2019. Inventories relate mainly to consumable spare parts, and in relation to revenues are relatively minor, while the company itself does not produce finished products. Therefore, the indicator is not necessarily significant for assessing financial stability of the Group. The receivables turnover ratio shows how many times a year the company converted its receivables into cash, while payables turnover ratio shows how many times a year the company pays off its accounts payable. In 2019, receivables were converted into revenue 20 times, while the Group paid its creditors almost 10 times. Throughout the observed period, it is evident that there were no significant oscillations except in 2019, when there was a change in the accounting standards used. The coronavirus crisis had a devastating effect on the Group. In the first half of 2020, only HRK 0.29 of revenue was generated for each kuna of assets.

<sup>31</sup> Žager, K. et al., *op. cit.*, p. 50.

*Figure 12: Activity ratios of the Croatia Airlines Group in the period from 2015 to 2020 (a)*

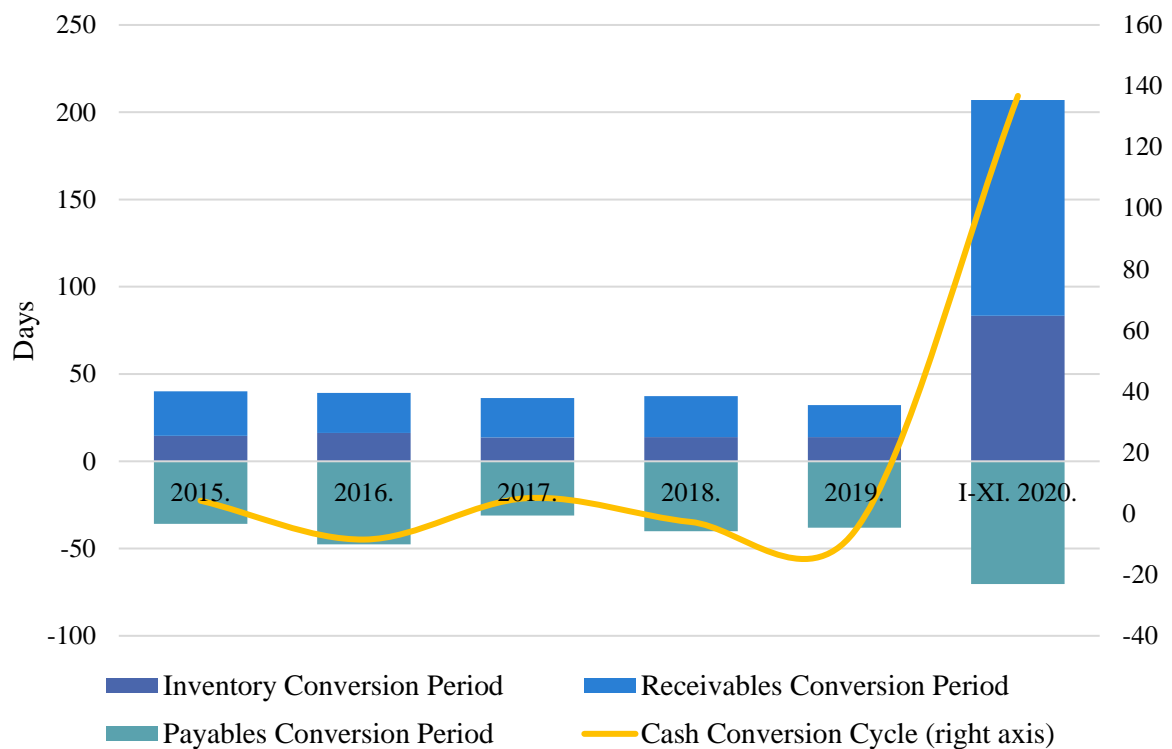
*Source: authors' work based on the financial statements of the Croatia Airlines Group (2016-2020).*

*Figure 13: Activity ratios of the Croatia Airlines Group in the period from 2015 to 2020 (b)*

*Source: authors' work based on the financial statements of the Croatia Airlines Group (2016-2020).*

Dividing the number of days in the year by the turnover ratios of the three main components of working capital, the corresponding conversion periods are determined; the inventory, receivables and payables conversion periods. The last indicator, the cash cycle, ie the money conversion cycle, measures how long is the money tied in inventories before the sale and collection of receivables from customers. It is calculated by summing the inventory and receivables conversion period and the payables conversion period. However, given the non-productive nature of the Group's operations, it can be concluded that it is not a crucial indicator of success.

Figure 14: Activity ratios of the Croatia Airlines Group in the period from 2015 to 2020 (c)



Source: authors' work based on the financial statements of the Croatia Airlines Group (2016-2020).

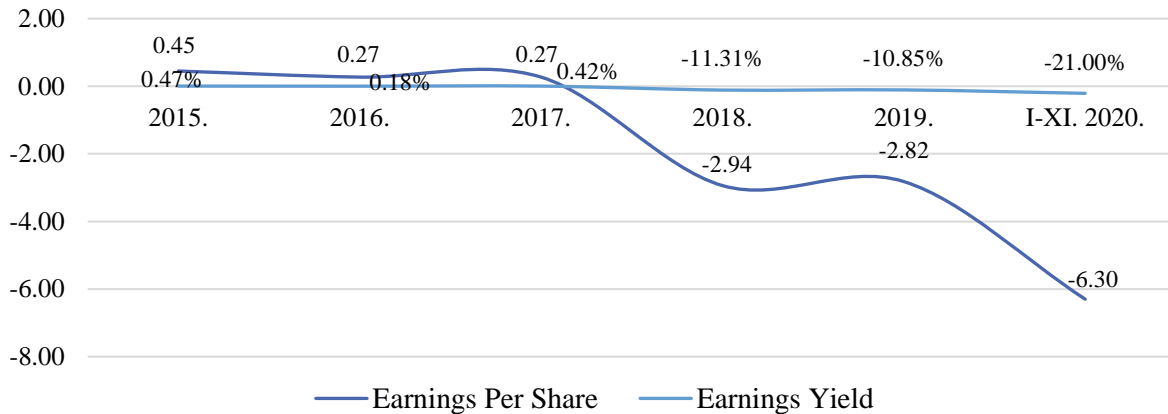
The relative changes in the activity ratios of the Croatia Airlines Group show a slight negative trend in 2018 compared to the previous year. Significant deterioration continued in 2019, while in the first half of 2020, due to the crisis, all indicators recorded a major negative change. Investment ratios are used to measure the success of investing in company's shares. Although as a rule it is not explicitly emphasized, it is understood that these are common shares.<sup>32</sup> The share capital of the company is divided into 27,787,953 ordinary shares with a nominal value of HRK 10.00. It should be noted that the Group did not pay dividends in the observed period. Figures 13 and 14 show earnings per share, price-to-earnings ratio and earnings yield of the Croatia Airlines Group. Earnings per share in 2015 amounted to a low 0.45 kuna. In the next two years, there is a decrease in value with an identical consecutive amount of HRK 0.27 per share. After 2018, the Group recorded losses in two consecutive periods, earnings per share became negative, and the current crisis further increased the operating loss. The price-to-earnings ratio below is the ratio of a Group's share price to the Group's earnings per share. It indicates the willingness of investors in the market to pay for the company's earnings, ie it is used to assess whether the company is overvalued or undervalued. The high value of the ratio shows that the share price was higher than the earnings on which it was based, ie that the company's share was overvalued. Such a situation lasted until the end of 2017. At that time, the share price was HRK 65. The market price fell after the company began to record losses. The current price is HRK 30 per share. According to the Zagreb Stock Exchange, it is evident that the company's shares are rarely traded: in 2019, the total value of all transactions amounted to only HRK 21,497.20, while in the first half of 2020 the total value amounted to HRK 48,860.40.<sup>33</sup> The last observed indicator is the earnings yield.

<sup>32</sup> Žager, K. et al., *op. cit.*, p. 55.

<sup>33</sup> Zagreb Stock Exchange (2020) *CRAL Security: Historical data* [online]. Retrieved from: <https://zse.hr/default.aspx?id=10006&dionica=252> [2020, August 21]

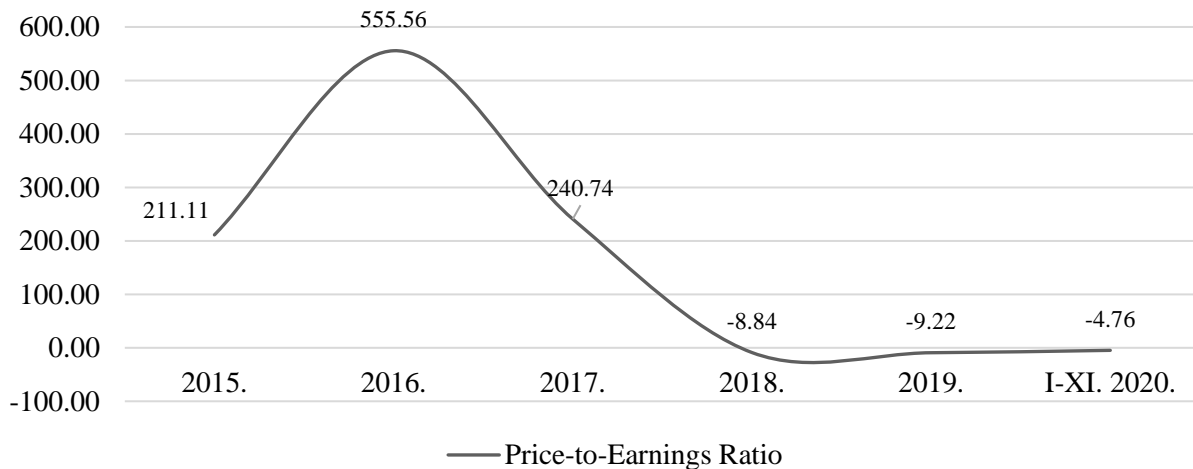
The earnings yield shows the percentage of the Group's earnings per share and is calculated by dividing earnings per share by the current market price per share. Figure 13 shows that the earnings yield is extremely low during regular business circumstances, which indicates a large difference between earnings per share and its current market price. In 2017, the last year when the profit was made, the earnings yield was 0.42%, which again indicated overvalued stock in that year.

Figure 15: Investment ratios of the Croatia Airlines Group in the period from 2015 to 2020



Source: authors' work based on the financial statements of the Croatia Airlines Group (2016-2020).

Figure 16: P/E ratio of the Croatia Airlines Group in the period from 2015 to 2020



Source: authors' work based on the financial statements of the Croatia Airlines Group (2016-2020).

Sesar, Buntak and Borlinić stated that the DuPont indicator system is an important management tool that shows the manager which forms of assets should be paid attention to. Return on assets is very important to controlling and management departments because they get information about how efficiently and effectively the assets of the company are used in everyday business, and more importantly, what its potential is. In accordance with the obtained data, the actual condition of the assets can be determined, better decisions can be made and the company can be managed more efficiently, primarily with an emphasis on asset management and profitability.<sup>34</sup>

<sup>34</sup> Sesar, V., Buntak, K. & Borlinić, M. (2015) Primjena DuPont sustava pokazatelja u procesu upravljanja. *Tehnički glasnik*, Vol. 9, No. 1, pp. 99-103.



Table 3 shows the analysis of the Croatia Airlines Group using the basic DuPont indicator system in the period from 2015 to the first half of 2020. The basic DuPont system breaks down the return on equity on three components; the net profit margin, the total assets turnover ratio and the financial leverage factor.

*Table 7: DuPont analysis of the Croatia Airlines Group in the period from 2015 to 2020*

Year	ROE	=	NPM	×	Asset turnover	×	Leverage
2015.	3.35%	=	0.77%	×	1.900	×	2.279
2016.	1.98%	=	0.47%	×	1.868	×	2.271
2017.	1.90%	=	0.40%	×	2.189	×	2.163
2018.	-26.51%	=	-4.61%	×	2.037	×	2.822
2019.	-34.14%	=	-4.44%	×	1.394	×	5.513
I-XI. 2020.	-324.49%	=	-47.92%	×	0.291	×	23.296

*Source: authors' work based on the financial statements of the Croatia Airlines Group (2016-2020).*

The DuPont analysis generally indicates that the return on equity of the Croatia Airlines Group is mostly driven by a significant level of borrowed capital and a stable level of total assets turnover ratio. Extremely low net profit margin, with the trend of further decrease from 2015 to 2017, to a lesser extent affects the realization of return on equity. The Group achieved the best result in 2015, when the return on equity was 3.35%. After 2018 and the accumulation of losses, the Group achieved a negative return which worsened the following year. In the first half of 2020, due to the crisis, the return deteriorated exponentially. In 2019, there was a significant decline in the total assets turnover ratio caused by the application of the new accounting standard. At the same time, there was a substantial outflow of equity capital caused by losses that ultimately worsened the financial leverage ratio and put the Group's operations at significantly higher risk. The last indicator observed in the assessment of financial position is the Altman model. Altman's Z-Score model is a synthetic indicator that predicts a company's bankruptcy within a year or two, and was developed based on the U.S. economy. For the purpose of the research, 22 ratios were used, which were reduced to 5 financial ratios by the process of multivariate discriminant analysis, which best reflected the financial situation in the company. Based on the above procedure, Altman's Z Score model was derived:<sup>35</sup>

$$Z = 1.2 X1 + 1.4 X2 + 3.3 X3 + 0.6 X4 + 1.0 X5 \quad (1)$$

However, this model was not applicable to unlisted companies. Therefore, a model was further developed that replaced the market value of the company with the book value. The following model is shown below:

$$\text{A model } Z = 0.717 X1 + 0.847 X2 + 3.107 X3 + 0.42 X4 + 0.998 X5 \quad (2)$$

This model was set only for manufacturing companies, so the formula was modified again in such a way that the indicator X5 was omitted because it showed significant deviations in certain activities. The final form of the model is as follows:

$$\text{B model } Z = 6.56 X1 + 3.26 X2 + 6.72 X3 + 1.05 X4 \quad (3)$$

<sup>35</sup> Žager, K. et al., *op. cit.*, pp. 64-65.

The calculation of ratios used in the Altman Z-score model for the Croatia Airlines Group is shown in Table 4 below.

*Table 8: Ratios of Altman's Z-Score model for the Croatia Airlines Group in the period from 2015 to 2020*

Ratios		2015.	2016.	2017.	2018.	2019.	I-XI. 2020.
NWC/Assets	X1	-0.2412	-0.2623	-0.2235	-0.2818	-0.2240	-0.2089
Retained earnings /Assets	X2	0.0041	0.0025	0.0017	0.0017	0.0022	-0.0613
EBIT/Assets	X3	0.0269	0.0174	0.0149	-0.0889	-0.0470	-0.1329
Market value of equity/Total liabilities	X4	2.1151	3.2517	1.6184	0.5221	0.2574	0.2554
Sales/Assets	X5	1.8997	1.8676	2.1895	2.0369	1.3939	0.2907

*Source: authors' work based on the financial statements of the Croatia Airlines Group (2016-2020).*

Figure 15 below shows the calculated values of the selected variants of the Altman's Z-Score model for the observed period.

*Figure following on the next page*

Figure 17: Variants of Altman's Z-Score model for the Croatia Airlines Group in the period from 2015 to 2020



Source: authors' work based on the financial statements of the Croatia Airlines Group (2016-2020).

According to the defined limits of the Altman's Z-Score model, it is possible to assess the risk of bankruptcy of a company. These limits are shown in the following table.

Table 9: Determined score limits for the Altman's Z-Score

Altman' Z-score model	Score range (-4.0 to +8.0) bankruptcy risk			
	Very small	"gray area"		Very big (95%)
		concern	within 2 years	
The Original	$\geq 3.0$	2.99-2.79	2.78-1.81	$\leq 1.80$
Model A	$\geq 2.9$	2.89-2.69	2.68-1.24	$\leq 1.23$
Model B	$\geq 2.6$	2.59-2.39	2.38-1.11	$\leq 1.10$

Source: Žager et al. (2017), p. 66.

Therefore, it can be seen that based on the Altman's original Z-score model, the Group was not threatened with bankruptcy risk until the end of 2017. After that, in the next two years there is a sharp deterioration of the indicator. It is evident, based on the score, that the Group was in significant risk of bankruptcy immediately before the onset of the coronavirus crisis. Model A, adjusted for non-manufacturing companies, has almost identical values like the original version. In both cases, the model shows extremely poor values in the first half of 2020, ie that the company is in significant financial distress which is not uncommon given the scale of the crisis. Model B, additionally adjusted by removing the variable X5, ie the sales/assets ratio, shows a larger oscillation. According to Model B, the company is in risk of bankruptcy already in 2015. The following year, the value of the model improved, after which a sharp deterioration is visible again. Given the large fluctuation it is possible to conclude that the first two models have a higher importance in the assessment of financial health compared to the last for the observed company. From the conducted financial analysis, it can be concluded that the restructuring process started in 2013 enabled the financial recovery of the Group. However, by the end of 2018, due to the global rise in fuel prices and significant necessary investments in the maintenance and renewal of its own fleet, the company made a loss which started a worrying negative trend. In addition, strong competitive pressure creates the presence of a large number of foreign airlines in the summer months which are able to offer cheaper average fares. By the end of 2019, the losses had caused a significant outflow of the shareholders equity, which put the company's success potentials to jeopardy. Significant financing needs and a negative business results also had an impact on the increase in the level of debt, ie a major imbalance in the capital financing structure. According to the typology of business crisis, excluding the crisis year 2020, the Group's financial situation in the last two observed periods undoubtedly indicated clear symptoms of an acute business crisis. In early 2020, the crisis caused by a new strain of coronavirus paralyzed air traffic and thus had a devastating effect on the Group's already disrupted financial health. Currently, from a financial point of view, the biggest challenge is to maintain the required level of liquidity for the company to continue its operations.

### 2.3. Possible management strategies for the Croatia Airlines Group in the future

The goal of the restructuring process started in 2013 was to financially stabilize the Group, after which it was necessary to find a strategic partner who would recapitalize the company and enable it to make continuously successful results in the future. However, in the years following the restructuring, the Group suffered an increase in costs due to rising oil prices and a higher rate of growth in overall costs than revenue growth. Large investments were needed to maintain and modernize the existing obsolete fleet, while high competitive pressure was driving down the average tariffs. Looking at national airlines in the region, it is evident that virtually none of them operates independently, sustainable and on the principles of a free market under normal

business conditions. The most important competitor of Croatia Airlines from neighboring countries is the Serbian national carrier Air Serbia. From the mentioned area, other relevant national air carriers are the Montenegrin Montenegro Airlines and until recently the Slovenian Adria Airways. At the end of 2019, Adria filed for bankruptcy after the Slovenian government gave up on further financial assistance and sold it to an investment fund that failed to restructure the company. However, there are already announcements of the establishment of a new Slovenian national airline because the disappearance of Adria Airways has allowed competition to take over profitable routes, while less profitable routes, which had a more strategic importance of connecting citizens and the economy in general, have been reduced or shut down. This basically leads to weaker connectivity and significantly less traffic in Slovenia in general, but also at the main airport in Ljubljana, which will certainly not reach the former level of operations for a long time. This example best illustrates the importance of national airlines in political, economic and security terms, which is further emphasized in the current crisis. Air Serbia was formed in 2013 on the foundations of former Jat Airways after the deal with Etihad from the United Arab Emirates, which acquired a 49% ownership stake. It has a fleet of about twenty aircraft, generates proportionally higher revenues and has a larger number of transported passengers compared to Croatia Airlines. However, strategic partnership meant additional borrowings and significant state aid in the form of assumed debt of the former company, tax breaks, more favorable fuel prices and high amounts of subsidies, so it is difficult to consider this as a fully sustainable long term business model based on market principles. Montenegro Airlines is the smallest company of all mentioned, measured by all operational and financial indicators, and the final business result has been negative for years. Although the company is heavily indebted, the local government provides full support by announcing a recapitalization with a significant amount in order to meet the company's obligations and future development needs. Therefore, it is evident that the business of national airlines in neighboring countries is equally extremely turbulent and subject to a number of adverse factors. The limited regional market and the strength of large foreign carriers is a major obstacle to the development of all these companies. Furthermore, it is noticeable that all companies are, in different proportions, financed with public money, while the escalation of the current crisis has once again shown the willingness of local governments to support their own national airlines. Even in the times of normal business conditions, Croatia Airlines was affected with various problems that posed a challenge for improving the efficiency and stability of its operations. A significant management challenge for the Group was the relationship with its own employees. Therefore, it should be mentioned that only after more than two years of collective bargaining, Croatia Airlines and its two representative unions, in February 2019, signed a new Collective Agreement for a period of five years.<sup>36</sup> Satisfied employees are one of the most important elements of a successful business. By signing the Collective Agreement, the continuity and stability of business without the potential disruptions caused by strikes was ensured, which was also an important prerequisite for the future strategic directions of the company's development. Equally, a major management challenge is the inability to elect the Company's director for a full term. Namely, from the resignation of the last Chief Executive Officer, the Supervisory Board extends the term of office of the current CEO for a maximum of six months until the implementation of the procedure of election and appointment of the Management Board by public tender. This way of extending the mandate has been going on since the beginning of the second quarter of 2017. The postponement of the election of the director for the entire term is of particular concern because the interim CEO does not have the continuity and authority as a top decision-maker to make long-term strategic decisions for the company. The crisis caused by the coronavirus, which is certainly the biggest challenge the company is facing in its history, affects the company in the circumstances of already severely impaired financial stability.

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<sup>36</sup> Croatia Airlines (2020) *Annual report of Croatia Airlines d.d. and the Croatia Airlines Group for 2019*, op. cit., p. 27.

Since the beginning of the crisis, the Group has been implementing the necessary internal measures of rationalization, with simultaneous efforts in terms of negotiations with all other stakeholders involved in order to mitigate the crisis and ensure business continuity. However, it is evident that the company cannot withstand the current situation without help from the owner, ie the government. Although the European Union's legal framework restricts Member States' in subsidizing their airlines once every ten years, current extraordinary circumstances have contributed to easing such regulations. Subsidies can be provided in the form of loans, guarantees, tax breaks, grants, grants for employees and the like. Following the immediate escalation of the crisis, in the management context, it was necessary to mitigate the consequences of the drastic reduction in cash flow and maintain the required level of liquidity in the coming months. The implementation and realization of a series of rationalization and cost reduction measures in all aspects of the company's business, from a management point of view, was necessary to ensure the continuity of operations and thus enable the company's survival. The company urgently took measures to reduce costs at all levels, which meant canceling the short-term seasonal lease of the CRJ1000 aircraft, giving up the long-term lease of the Q400 aircraft and through a conclusion of an agreement with the lessor to extend the start of the long-term lease of the A319 until the summer season 2021. The cost reduction of monthly lease instalments using a Power by the Hour calculation has been agreed with lessors for 11 of the current 13 aircraft and engine leases. Also, reductions in various costs or deferrals of payment have been agreed with other suppliers. Investments have been reduced, seasonal staff recruitment has been canceled, promotional campaigns have been postponed and promotion costs have been reduced in all markets. Also, through an agreement with the social partners, staff costs have been temporarily reduced with previously reduced budgets for business trips and training of non-operational staff. In addition, a moratorium on existing loan obligations for six months has been agreed, while new maturities have been agreed for some loans. Measures of the Government of the Republic of Croatia related to the postponement of the payment of taxes, contributions and other public dues for three months have been realized.<sup>37</sup> With the reduction in the number of flights, the fleet structure was adjusted in terms of greater emphasis on the use of the Q400 turboprop fleet due to lower capacity compared to the fleet of Airbus A319 and A320 aircraft. The company has proven its strategic importance by contributing to the maintenance of transport connections to the Croatian economy and citizens. In addition, Croatia Airlines did not suspend operations in extraordinary circumstances, as did other airlines when the crisis began in March. According to the semi-annual report, since the beginning of the crisis, Croatia Airlines has enabled the return to Croatia for about 23 thousand Croatian citizens, made itself available to the Government of the Republic of Croatia to transport humanitarian aid, return Croatian soldiers from Afghanistan, and performed several repatriation flights from various parts of Europe. During April, Croatia Airlines received an approval from the Croatian Civil Aviation Agency for Airbus fleet aircraft, which enabled cargo transport in the passenger cabin, primarily for the needs of transporting humanitarian aid and protective equipment. In the context of supporting the tourism industry, the role and contribution of Croatia Airlines in connecting coastal airports with European destinations in the summer season should also be mentioned in a situation when reduced arrivals of foreign carriers are expected.<sup>38</sup> In addition to all of the above, the Croatia Airlines aircraft performed the longest flight in the company's history and landed in China for the first time as part of repatriation tasks. All these activities have enabled the company to emphasize the strategic importance of the national airline as such, especially in the extraordinary circumstances of the current crisis, which has contributed to developing awareness of both the public and owners about the importance and

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<sup>37</sup> Croatia Airlines (2020) *Consolidated and separate business reports of Croatia Airlines d.d. for the period January - June and II. quarter 2020*, op. cit., pp. 11-12.

<sup>38</sup> Ibid, p. 10.

necessity of a stable national airline. All effective and constructive management decisions ultimately shape the attitude of the public, the stakeholders involved and the owners who eventually decide on the level and form of assistance to the company that will have an impact on its future development. Given the current situation, the company has internally made cash flow projections depending on the traffic volume assumptions for which restart planning is most at risk because of a lack of historical reference model that can be used to create a scenario based on realistically expected travel demand:<sup>39</sup>

- first projection: negative cash balance of HRK -220.2m at the end of the year;
- second projection: negative cash balance of HRK -294.1m at the end of the year;
- third projection: negative cash balance of HRK -551.3m at the end of the year.

Therefore, regardless of the extent and duration of the crisis, it is certain that the company will urgently need additional funds to provide sufficient liquidity and maintain business. Given all the above, the potential outcomes of managing Croatia Airlines in the short term can be identified as:

- Bankruptcy and liquidation of business - low probability;
- Recapitalization by the owner, ie the Republic of Croatia - high probability.

Bankruptcy of the Group, judging by the statements of senior government officials, is not an option at the moment, while the Government itself supports the business, which is evident from the moves so far. Namely, at the end of 2019 and the beginning of 2020, the Republic of Croatia provided a shareholder loan with the aim of normalizing the company's financial condition. At the same time, the process of finding a strategic partner, ie a private investor, which was again underway, was postponed until further notice due to the current situation. In order to find a solution to the current situation and provide a solid foundation for the transformation of the current business model, the company's Business Plan 2020-2025 has developed a new strategic direction that should enable long-term business sustainability. According to the plan, the key strategic goals are:<sup>40</sup>

- ensuring profitability;
- responsibility to shareholders;
- capital increase;
- fleet renewal and optimization;
- concluding a public service obligation contract.

In the global context, it is evident that capital markets are slowly returning to pre-crisis levels, which indicates the built-in confidence of the market in a rapid economic recovery. However, the prices of airline securities have so far recorded very weak growth, which means that markets do not expect a recovery in the short term. Demand for air transport will not return to pre-crisis levels, at best, until 2023, while in worse scenarios the recovery would be even longer.<sup>41</sup> Therefore, it is indicative that those airlines with financial difficulties, and without the support of the government or the trust of creditors, will be forced to liquidate their business. Consequently, at the strategic management level, it is possible to expect a new wave of mergers and acquisitions after recovery, which will be initiated by strong companies that survive the current situation.

<sup>39</sup> Croatia Airlines (2020) *Consolidated and separate business reports of Croatia Airlines d.d. for the period January - June and II. quarter 2020*, op. cit., pp. 30-31.

<sup>40</sup> Ibid., pp. 29-30.

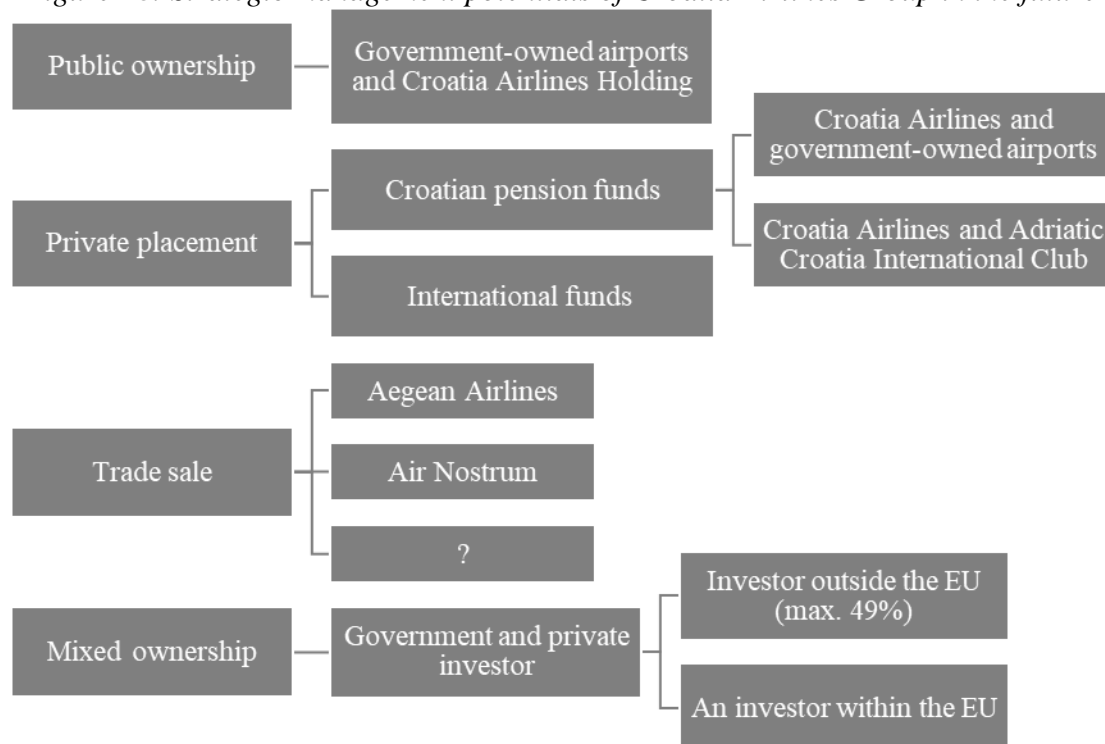
<sup>41</sup> IATA (2020) *Five years to return to the pre-pandemic level of passenger demand* [online]. IATA. Retrieved from: <https://www.iata.org/en/iata-repository/publications/economic-reports/Five-years-to-return-to-the-pre-pandemic-level-of-passenger-demand/> [2020, August 25]

In general, there are different ways of privatizing airlines, and it is rarely possible to apply one model to more than one company. The reason for this is that each company operates in different competitive conditions, is characterized by different risks and operates with a different capital, ownership and the organization structure itself. According to Morrell, methods of privatisation are one or a combination of the following:<sup>42</sup>

- Flotation (public subscription);
- Private placement (a number of different private investors);
- Trade sale (one large investor which also operates in the same or related industry);
- Employee or management buy-out.

Given the underdeveloped local capital market characterized by low trading volume, further public issue of securities is not an option that would allow sufficient levels of additional capital to the company. Equally, due to the lack of interest, but also limited opportunities to raise capital, management and employee buyout is a negligible option. Therefore, provided that the Croatia Airlines Group achieves the financial sustainability that would be ensured by the Republic of Croatia in the next short-term period, it is possible to identify several long-term development directions shown in Figure 16 below.

*Figure 18: Strategic management potentials of Croatia Airlines Group in the future*



*Source: authors' work.*

There is a possibility that the owner, ie the government, will not be able to find a strategic investor in the current circumstances of stagnation in the air transport industry. In such a scenario, the company would remain state-owned in the coming years, while the main imperative would be clearing out debt and achieving financial sustainability of the business. One model mentioned for preserving the company is to create a holding company of Croatian government-owned airports and Croatia Airlines. In that case, the company practically remains state-owned, while highly profitable airports would finance the needs of Croatia Airlines, at

<sup>42</sup> Morrell, P. S. (2007) *Airline Finance*, 3th ed. Hampshire: Ashgate Publishing Limited, p. 131.



least in the initial recovery period. However, in the context of such a model, it is necessary to avoid a situation in which Croatia Airlines would continue to accumulate losses that would be compensated through airport profits. Therefore, a necessary condition for the stability of such a holding is a thorough restructuring of the Group's operations, which should enable the company to cover its financial obligations without external help. The second solution is for pension funds to take over Croatia Airlines and state-owned airports, and the third is that *pensioners* take over Adriatic Croatia International Club along with the Croatia Airlines. The holding would include all airports that are majority state-owned - Dubrovnik, Split, Zadar, Rijeka, Pula and Osijek, except for the Zagreb airport, which is under concession. The total profit of these five airports for 2018 was HRK 213.1 million.<sup>43</sup> It is evident that pension funds are interested in expanding their portfolio and it is reasonable to assume that by entering the ownership structure they would initiate the necessary changes in the company. On the other hand, within the private placement, there have been no offers of foreign investment funds so far. The interest of the German investment fund 4K was mentioned, which has already taken over the bankrupt Adria Airways, the former Slovenian national airline. In aviation circles, 4K is not of good repute because it is considered a fund that buys airlines for German Lufthansa, which it then tries to restructure. If it fails to do so, it withdraws and the company goes bankrupt, and if the restructuring is successful, the company is taken over by Lufthansa.<sup>44</sup> It is indicative that a number of private investment funds did not show interest in recapitalizing the company because of the high amounts of required capital, the uncertain outcome of the restructuring and the extremely cyclical and high-risk industry. In the circumstances of the current pandemic, the funds were expected to become more conservative in their investments. Therefore, such an option is less likely in the foreseeable future. If a one-off sale model would be chosen, it would refer to a sale to an interested company in the airline industry. On 23 December 2019, the company informed the public that the phase of examining the existence of interest of potential investors in participating in the Group's recapitalization resulted in the receipt of two non-binding offers. According to unofficial information from Jutarnji list, the offers were made by Greek Aegean Airlines and Spanish Air Nostrum.<sup>45</sup> Aegean Airlines is the flag carrier airline of Greece and the largest Greek airline by total number of passengers carried, by number of destinations served and by fleet size. It is a member of the Star Alliance, as well as Croatia Airlines, and in 2012 they acquired the Greek airline Olympic Air. Air Nostrum, on the other hand, is a Spanish regional airline based in Valencia. It currently operates as a franchisee of Iberia as Iberia Regional and an affiliate member of the Oneworld airline alliance. By all indicators, the companies are significantly larger than Croatia Airlines. It is possible to give Aegean a slight advantage because the company has been operating successfully for many years, competitive conditions are similar to Croatia (tourist destination with great number of islands, seasonal business, foreign low cost carriers), membership in the same alliance, and similar fleet. The main reason that could affect the loss of their interest are conditions attached that the government could impose to the new owner. In general, one of the limiting factors for further liberalization and multinational integration in the air transport industry is different restrictions of foreign ownership and management rules. The ownership restrictions involve placing explicit numerical limits on foreign nationals' ownership of the voting equity share capital of airlines.

<sup>43</sup> Bohutinski, J. (2019) *Tri modela za spas Croatia Airlinesa* [Three models to save Croatia Airlines] [online]. Poslovni dnevnik. Retrieved from: <https://www.poslovni.hr/hrvatska/razmatra-se-prodaja-mirovincima-u-paketu-s-aci-jem-359483> [2020, August 24]

<sup>44</sup> Bohutinski, J (2019) *Tko želi Croatia Airlines i treba li nam nacionalni avioprijevoznik?* [Who wants Croatia Airlines and do we need a national airline?] [online]. Večernji list. Retrieved from: <https://www.vecernji.hr/premium/tko-zeli-croatia-airlines-i-treba-li-nam-nacionalni-avioprijevoznik-1302983> [2020, August 24]

<sup>45</sup> Žabec, K. (2019) *Aegean Airlines i Air Nostrum dali ponude za Croatia Airlines* [Aegean Airlines and Air Nostrum made offers for Croatia Airlines] [online]. Jutarnji list. Retrieved from: <https://novac.jutarnji.hr/makro-mikro/aegean-airlines-i-air-nostrum-dali-ponude-za-croatia-airlines/9786496/> [2020, August 24]

However, “effective control” is not so easy to define and monitor. It is not always possible to express numerically the level of influence that an investor has in the management of an airline.<sup>46</sup> According to European Union legislation, third-country investors can have a maximum of 49% ownership stake of the Member States airlines. However, this does not exclude the possibility that a potential non-EU investor enters a strategic partnership with Croatia Airlines as a minority owner. If Croatia Airlines's strategic partner were to be sought outside the EU, for which there has been interest in previous recapitalization attempts, many experts agree that Asian airlines would be the ideal partner because they are interested in expanding the fleet and flight network. Regardless of the chosen model of strategic partnership, for the long-term sustainability of the business, the Group states that the investor should meet certain basic conditions:<sup>47</sup>

- Expansion of the transport network and increase of the market share of Croatia Airlines, bearing in mind the importance of regular and year-round connections in domestic and international air transport and the need for strong support for further development of tourism potentials of the Republic of Croatia;
- Recapitalization to support the future development of Croatia Airlines;
- Participation in the renewal of the fleet of Croatia Airlines, in accordance with the expansion plans;
- Further development of technical services of Croatia Airlines to external clients.

These fundamental conditions for long-term growth, which also represent the biggest challenges to achieve, should not remain just a symbolic wish list. Even if the company remains in government hands, regardless of the effect of lower efficiency of public ownership, it is possible to develop a successful flag carrier, especially in a country with such great tourism potential. Clearly, synergy based on the cooperation of all other stakeholders in the value chain should be imperative. The recent announcements of cooperation and connection of Jadrolinija's services, a Croatian state-owned shipping company which connects the Croatian islands to the mainland, with the services of Croatia Airlines are a good example in this direction. There are examples of national airlines in Europe operating successfully in the market, in spite of the majority state ownership model. The most famous are LOT Polish Airlines, TAP Air Portugal and airBaltic, while most of the large European airlines have at least a minority share of state ownership. With the necessary initiative, regardless of the chosen development model, there is no reason for Croatia Airlines not to join the group of successful European flag carrier airlines in the future.

### 3. CONCLUSION

Today, modern business in general is distinct by the constant dynamics of growing changes that increase the complexity of management and decision-making process. The air transport industry is a typical example of a highly competitive industry characterized by a spectrum of different risks and specifics that shape the behavior of the stakeholders involved. External risks and changes that shape the cyclical movements of the entire economy represent a constant uncertainty in the air transport industry. In this context, the Croatian national airline Croatia Airlines has now been operating for thirty years. Today, Croatia Airlines is a medium-sized European airline that contributes to the development of Croatian tourism and economy and enables year-round connection of Croatian destinations with the rest of the world. However, with the emergence of a new strain of coronavirus in early 2020 that almost completely halted business operations, air transport is going through the deepest crisis in its entire history.

<sup>46</sup> Tatalović, M., Bajić, J. & Šupuković, V. (2017) Air Transport privatization trends. *Economy and Market Communication Review*, Year VII., No. II., pp. 347-375.

<sup>47</sup> Croatia Airlines (2020) *Annual report of Croatia Airlines d.d. and the Croatia Airlines Group for 2019*, op. cit., p. 27.

In the current circumstances, companies that manage the crisis by solving problems agilely and effectively based on real-time data with the support of digital technologies have the greatest chances for survival and recovery. The strategic importance of the national airline as a vital part of the transport infrastructure was especially evident after strong travel restrictions were imposed, which meant suspension of flights of foreign carriers to Croatian airports. In such circumstances, Croatia Airlines maintained a continuous transport connection for Croatian citizens and the economy, especially tourism as an important export industry. Equally, the company provided transportation for much-needed medical equipment and supplies. The analysis of the financial situation indicates that in the immediate years before the external crisis caused by the pandemic, the Group had significant operating difficulties, which were reflected in the final result. The situation of financial distress posed a significant risk to the very existence of the company. Currently, the greatest internal risk is associated with maintaining a sufficient level of liquidity, which is why the company will require urgent financial assistance from the government. Due to the taken necessary management measures, liquidity risk reduction and continuous action in the interest of the Republic of Croatia and its citizens, the company has proven its importance, which is why the owner, ie the government is very likely to financially support the business. The company has already undergone a restructuring process in the past, and it is likely that a thorough process of business reorganization, regardless of direction of future development, will be necessary again. With the aim of further development and strengthening the competitive advantages and position of Croatia Airlines on the market, the implementation of the best evaluated strategic development model amongst all researched in the paper is needed as soon as possible. Regardless of the current slowdown in the air transport industry, it is imperative for the Republic of Croatia to preserve the intellectual capital and knowledge built so far as the most valuable resource of the company in order for the company to take part in the upcoming recovery period of demand and thus contribute to the growth of the Croatian economy in the long term.

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# THE IMPACT OF THE RISK MANAGEMENT ON THE SMES RESILIENCY, ADAPTABILITY & SUSTAINABILITY IN A CRISIS

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## ABSTRACT

*Global sourcing has increased as buyers searched for new markets that offered better quality, delivery lead times, pricing, variety and their local markets, what has also exposed businesses to many risks. The purpose of this descriptive qualitative study was to explore the attitudes of production and service companies on risks encountered by them, and determine whether risk identification and management approaches sustain, improve or decrease their business performances. The sample makes 175 enterprises from Western Balkan countries stratified in two groups: production and services: 62 textile production firms, and other from related supply chain service sector: trade, fashion centers and high-tech ICT service. For the research were used semi-structured interviews conducted with owners and managers of the firms in 2019. The methods used in the research are Pearson's  $\chi^2$  (Chi-Square), statistical methods and the Multiple Discrimination Analysis (MDA) model. Key findings supported the hypothesis on the impact of the risk management in the business resilience of the SMEs in textile and its supply chains, their sustainability of the performances. It supports the existence of the relation between the levels of organizational resilience and business health helped by adequate risk management, proactive identification and management risks in order to reduce and mitigate potential disruptions.*

**Keywords:** *Resilience, Risk Management, Supply Chains, Textile, Western Balkans*

## 1. INTRODUCTION

Throughout the continuation of the COVID-19 pandemic and subsequent economic crisis is evident the increasing pressures on enterprises, especially micro, small, and medium-sized ones. The enterprises must more focus on the ways in which they can build sustainable and resilient companies that are adaptable to both internal and external constant changes and ever-present uncertainty in the world around them. Resilience has taken on an entirely new meaning in 2020, as the major deciding factor determining a firm's present and future success. Witnessing the prioritization of resilience in designing, constructing, and growing a business, the grand difference between an organization that is just surviving and one that is thriving could be better understand. A resilient perspective of demands leads to that the enterprise what sees the opportunity regardless of the circumstances navigating a complex environment that is changing at an ever-accelerating pace. That further make:, the danger of cyberattacks and breaches of all kinds grows, business models, climate change, producers and consumers with

faster decisions, trending news, changed and being transformed by new waves of new digital technologies, with preferences shifting under the influence of social media. In many recent studies has been concluded that most companies operate in a complex, industry specific risk environment. The research which results are presented in this paper are on the critical success factors and properties supporting resilience development of the SMEs respecting the risk management functions in the textile industry sector from the Western Balkan countries. Economic recessions have created challenges for textile enterprises and contributed to disruptions requiring them to be resilient and improve their risk management functions (The average number of textile and clothing firms in Western Balkan that went bankrupt during the previous crisis escalated twofold compared to the average over 2000-12, [10]. At the same time companies are challenged by emerging types of risks for which they need to develop effective mitigation plans. The rising importance of the risk management in the textile sector is addressed and discussed. The research sample includes textile processing companies, and their supply chains in the processing, as well as trade-shops, fashion centers and high-tech service companies connected to the textile. Because of that, the objective of the research is to analyze the impact of the risk management in textile to their resilience and sustainable business success. The paper is structured so that after the summary and the introduction, an overview of the definitions is given. As the paper covers the empirical research from some Western Balkan countries, a textile industry characteristics are described, and the research methods, results, and conclusions, with the references are given.

## **2. LITERATURE REVIEW**

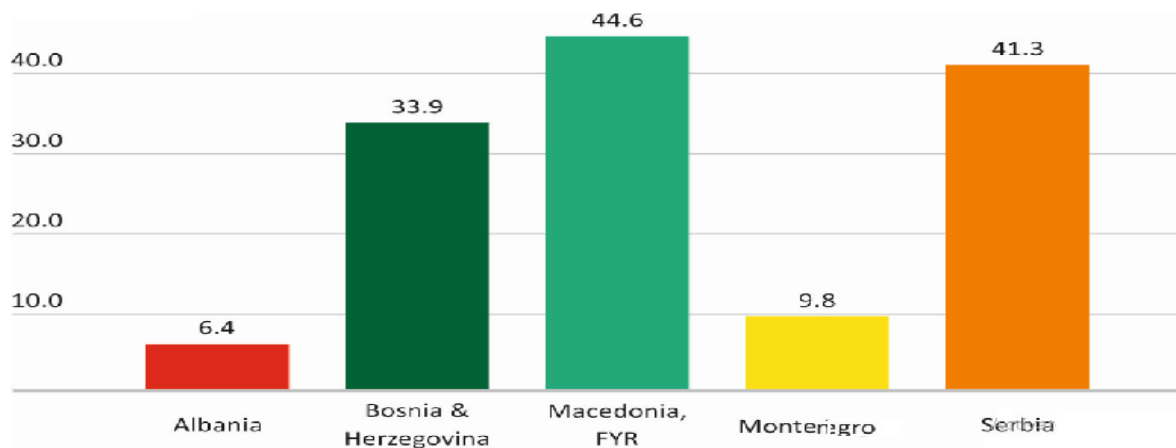
Resilience in textile enterprises and supply chains most often means the ability to withstand crises and disturbances, and could be the key requirement in the company for developing sustainable edge over the less resilient ones. Resilience is considered a discriminating factor too, between successful and surviving firms and those that fail. Much recent research aims to contribute to the understanding what creates resilience, its attributes, indicators, business continuity planning and risk and crisis management. So far, minimal research has been conducted on how small and medium enterprises, especially in the textile sector assess and manage general risk [17,18]. Pfohl, Köhler & Thomas [13] define supply risks as a result in an interruption of the flow of goods from the supplier to the customer. These risks are classified from supplier reliability, costly logistics, cultural barriers, fluctuating exchange rate, and political and environmental volatility [6, 8]. Resilience requires understanding the time and reason of disruption happening in the textile companies, to be able to avoid and correct the greater disruptions at a later date [4].

## **3. WESTERN BALKANS TEXTILE SMES EXPORTS**

In this part of the paper are given some data on export activities of Albania, Bosnia and Herzegovina, North Macedonia, Montenegro and Serbia in 2018, and EU trade with the Western Balkans in textiles and clothing for the period of 2013-2019 [9, 5].

*Figure following on the next page*

Figure 1: Goods exports (percent of GDP) in Western Balkan countries



Source: <https://ec.europa.eu/trade/policy/countries-and-regions/statistics> [20]

Average annual growth of that trade has been the highest in Bosnia and Herzegovina for imports.

Table 1: EU trade with Western Balkans in textiles &amp; clothing, 2013-2019.

	2013	2014	2015	2016	2017	2018	2019	Annual average growth
Imports (in millions of euros)								
Serbia	357	429	484	503	554	573	605	6.9
North Macedonia	498	509	481	482	473	455	434	-2.5
Albania	238	248	275	340	391	435	454	13.3
Montenegro	1	1	1	1	1	1	1	-4.6
Bosnia & Herzegovina	187	198	228	240	266	291	291	6.5
Exports (in millions of euros)								
Serbia	435	478	487	551	582	611	633	6.8
North Macedonia	335	358	358	361	381	383	375	1.3
Albania	218	260	288	333	374	391	392	8.0
Montenegro	34	35	34	36	37	37	40	4.4
Bosnia & Herzegovina	265	293	325	340	383	375	357	3.2
Balance ((in millions of euros)								
Serbia	79	47	22	48	28	38	28	-
North Macedonia	-161	-151	-124	-121	-93	-72	-59	-
Albania	-20	2	12	-7	-17	-44	-82	-
Montenegro	33	34	32	36	36	36	39	-
Bosnia & Herzegovina	98	95	87	100	97	84	65	-

Source: <https://ec.europa.eu/trade/policy/countries-and-regions/statistics/> [20]

## 4. METHODS AND MATERIALS

### 4.1. Research objectives and methods

The aim of the empirical research is to identify the impact of the enterprise risk management on the resilience of the textile companies business income and sustainability. The hypothesis of the paper is that the risk management impacts the firm's business success and its resilience and sustainability [2]. The survey of 175 SME enterprises from Western Balkan countries has been stratified in two groups of production and services: 62 enterprises whose main activity are textile production-processing, and service companies from: textile trade (40), fashion

centers (35), and high-tech service companies (38). The aim was to obtain adequate information on the attitudes and ways business entities manage various internal and external risks [7]. There were used a discriminant and predictive analysis and statistical *methods*, statistical testing of distribution patterns. The dependence of individual sample variables, based on *Pearson's  $\chi^2$  (Chi-Square)*, and the *Multiple Discrimination Analysis (MDA) model* [1] were used for problem analysis that examines the impact of numerical independent variables, the so-called criteria  $X_1-X_p$ , in comparison with the descriptive (categorical) variable  $Y$ . In this case,  $p = 4$ , i.e. examines the degree of risk management of the surveyed enterprises, which are, according to the type of activities they perform, grouped into the four afore mentioned dichotomous variables (criteria):  $X_1$  - textile production;  $X_2$  –trade services;  $X_3$  – fashion center services;  $X_4$ - ICT high-tech service in textile. The performance of the respondents (SMEs representatives) is a categorical variable  $Y$ , which categories are labeled as follows: A- Business resilience and sustainability, B- Business improvement, and C- usiness decreases. In this paper, discriminant analysis has been used to determine the relationship between the factors A, B, C that distinguish the different risk's impacts on the business success of surveyed companies, in comparison with their business orientation  $X_1, X_2, X_3, X_4$ . The discriminant analysis is described by the estimation of the so-called Fisher's Discriminant Function (FDF):

$$Z = a_1X_1 + a_2X_2 + a_3X_3 + a_4X_4 \quad (1)$$

which determines the statistical significance between different factors.

In that way obtained values of the FDF give the distance of factors to each other they indicate how different they are and provide the direction and degree of contribution of each variable used in the classification. The higher values of the coefficient with the corresponding variables indicate a higher tendency to belong to the given population, and vice versa. Finally, emphasize that there is a useful link between regression and discriminant analysis. The comparison of these coefficients gives a precise insight into the degree and significance of the influence of independent variables (predictors)  $X_1, X_2, X_3, X_4$  on each category of the dependent variable  $Y$ .

#### 4.2. Key findings and discussion

The quantitative values of all indicators are shown in Table 2, with values of  $\chi^2$  statistics, together with the corresponding p-value. The fifth variable describes the performance of the surveyed enterprises in 2019. For this purpose, three attributive (descriptive) categories were used, which are also of particular importance in further statistical-discriminatory analysis, and are interpreted as modalities of the dependent variables of an attribute type.

*Table following on the next page*



Table 2: The research sample characteristics

Variables	Number of companies	Proportion ( $p$ )	St. Deviation	$\chi^2$ -statistic ( $p$ -value)
1. Forms of companies				
– Private independent company	69	0.3943	0.4887	23.88 (2.65E-05 <sup>**</sup> )
– Part of larger system	42	0.2400	0.4271	
– Public company	24	0.1371	0.3440	
– Other	40	0.2286	0.4199	
2. Position surveyed				
– Owner	48	0.2743	0.4462	1.571 (0.6659)
– Manager	37	0.2114	0.4083	
– Director	44	0.2514	0.4338	
– Consultant	46	0.2629	0.4402	
3. Company's activity				
– Production (Textile)	62	0.3543	0.4783	10.44 (0.0152 <sup>*</sup> )
– Trade services	40	0.2286	0.4199	
– Fashion centers services	35	0.2000	0.4000	
– High-tech /ICT services	38	0.2171	0.4123	
4. Source of income				
– Domestic market	114	0.8229	0.3818	16.05 (6.16E-05 <sup>**</sup> )
– Export activities	61	0.1771	0.3818	
5. Impact of risk in 2019.				
– Business sustainability & resilience	77	43,36%	0.4964	9.269 (9.71E-03 <sup>**</sup> )
– Business improvement	52	28,32%	0.4570	
– Business decrease	46	28,32%	0.4402	

\* $p < 0.05$ , \*\* $p < 0.01$ 

Main results show that the majority of respondents (SMEs from the textile sector) have been used risk management in 2019 most often to sustain the business, smaller number of the companies consider risk management as an important function for the business improvement and revenue increase. This is confirmed by the value of Pearson's statistic ( $\chi^2 = 9.269$ ), indicating a statistically significant difference in the distribution of the observed responses. Table 3 shows the distribution of positive responses of surveyed legal entities, categorized, on the one hand, by their basic activity, and on the other hand, in relation to the impact of risk on the success of their business in 2019. Based on the realized value of Pearson's statistic (Pearson's  $\chi^2 = 7.184$ ), it can be concluded that there is no statistically significant dependence of the risk influence on the performance of the respondents in relation to the activity which they perform.

Table 3: The impact of the risk management on the business performance

Impact of risk	Company's activity				Total
	Production (Textile) ( $X_1$ )	Trade services ( $X_2$ )	Fashion centers services ( $X_3$ )	High-tech/ ICT services ( $X_4$ )	
A. Business resilience & sustainability	28	15	14	20	77
B. Business improvement	21	11	8	12	52
C. Business decrease (revenues)	13	14	13	6	46
Total	62	40	35	38	175

$$\chi^2 = 7.184 \quad (p = 0.3042)$$

Table 4 shows the results of the Multiple Discriminant Analysis (MDA), computed by using the so-called *IDA* -function and software package MASS, realized in statistical programming language “R” [16, 11]. The estimated values of two Fisher’s Discriminant Functions (FDFs), labeled as  $Z_{AB}$  and  $Z_{BC}$  are given in the first two numerical columns of the Table 4. According to Eq. (1), these functions represent the linear combinations of the dichotomous independent variables  $X_1, X_2, X_3, X_4$  which minimize the variation within each group A, B, C, i.e. their explicit forms are as follows:

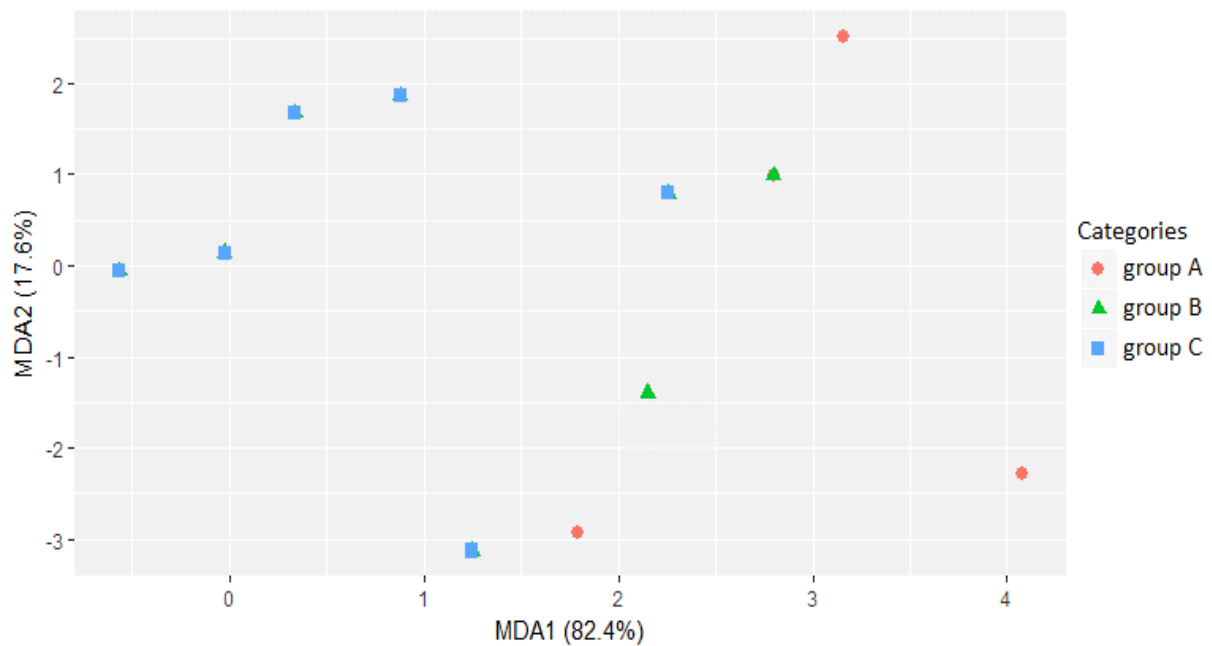
- $Z_{AB} = 1.3974$  (Textile Production) - 2.5959 (Financial services) - 1.5591 (Insurance services) - 1.5569 (ICT services),
- $Z_{BC} = -2.1295$  (Textile Production) + 0.0485 (Financial services) + 0.3190 (Insurance services) – 3.1838 (ICT services).

*Table 4: Results of the Multiple Discriminant Analysis*

Variables	FDFs		Groups		
	$Z_{AB}$	$Z_{BC}$	A	B	C
$X_1$ Textile Production	1.3974	-2.1295	0.1657	0.1314	0.0743
$X_2$ Trade services	-2.5959	0.0485	0.1029	0.0743	0.0857
$X_3$ Fashion centers services	-1.5591	0.3190	0.1029	0.0514	0.0457
$X_4$ High-tech/ICT services	-1.5669	-3.1838	0.1200	0.0629	0.0229
Singular values:	0.8240	0.1760			

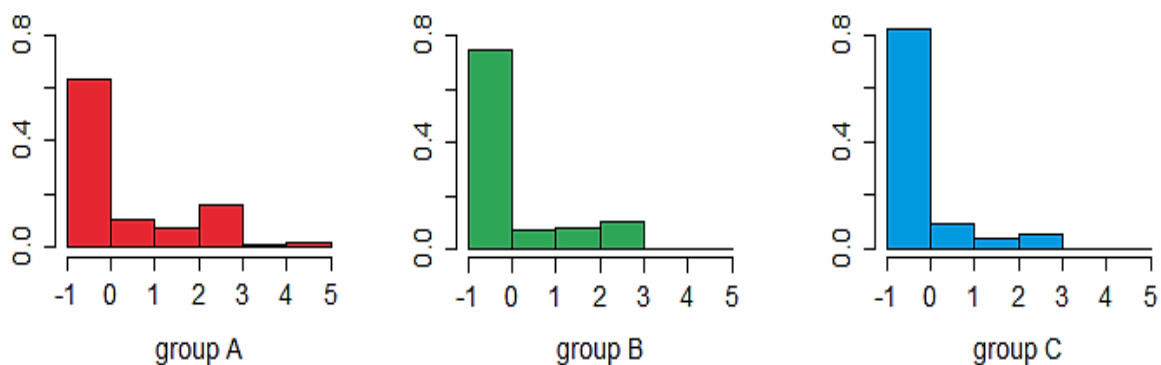
Only first estimated values of the FDF  $Z_{AB}$  are positive, what indicates that in the area of textile production, when choosing between business sustainability & resilience (category A) and business improvement (category B), most of surveyed companies in this stratum show the efforts that could be classified as the first category. The negative values of the FDF  $Z_{AB}$  indicate that (all other) surveyed service companies, would tend to improve their business. On the other hand, the estimated values of coefficients of the FDF  $Z_{BC}$  indicate the following: When choosing between business improvement (category B) and income decrease (category C), the textile production companies (variable  $X_1$ ) and high-tech / ICT services (variable  $X_4$ ) are expressed as the first one. In the case of respondents from the other two groups of service companies, there is a tendency, though to a lesser degree, to increasing their incomes. In the second part of Table 4 there are the so-called class-specific meaning the average values of each of the four dichotomous variables related to the business activity of the surveyed companies, which were compared to their categorization within the categorical groups A, B, C. The amount of the between-group variance is explained by each linear discriminant FDF, as singular values represent the ratio of the between- and within-group standard deviations on the linear discriminant variables  $X_1, X_2, X_3, X_4$ . In this case, the first linear discriminant  $Z_{AB}$  explains more than 80% of the between-group variance in this sample. The obtained results can be shown illustratively, presenting the two best discriminant functions  $Z_{AB}$  and  $Z_{BC}$ , with data points marked categories A, B, C. The first discriminant function  $Z_{AB}$  ( $x$ -axis, labeled as MDA1), separates fairly well groups A and B, as well as groups B and C. On the other hand, the second discriminant function ( $y$ -axis, labeled as MDA2) achieves a good separation of groups B and C, although it is not totally perfect.

Figure 2: Distributions scatterplot of dichotomous variables related to a particular category group



The results of MDA can be also used to find the so-called *posterior probabilities* of the data, with an prediction of the future tendencies of the affinities of business entities. So in the Figure 3 is given stacked histogram of the posterior values distribution. The result can be interpreted as: each of the surveyed companies would mostly like to retain the same opinion on the impact of the risk on their business (the greatest posterior probability relates to the first bin of all histograms). However, this business relationship is the smallest of groups A, where there is the pronounced tendency to change the current affiliation. Similar affinity, but to a lesser extent, is present at the respondents in the group B. Finally, the respondents of the last group C show the least tendency to change their attitude that risk management influences the decrease in their income.

Figure 3: Histogram of predicted values for each of the categorical group



## 5. CONCLUSIONS

In the sample were analyzed the production companies from textile sector in Western Balkan countries, and service companies from trade, fashion centers and high-tech/ ICT service in the sector. This attitudes of textile production companies on risk issues, are very important in further creation of conceptual and relationals lack, as well as of material and financial [3, 12, 15, 19], through cost minimization techniques and implementation of growth initiatives were

the keys towards development of an organized response repertoire in resilient organizations [14]. The research and its key findings presented in the paper, support the hypothesis of the paper that shaping various risks, SMEs companies from the production or service textile sector can positively impact the performances of their business. It supports the need of the gaining control of the SME business in an ever changing environment adjusting their business processes and strategy. Most of the textile production companies see the risk management function as important in the sustaining the revenues and their resilience or improving their business success. The path to risk, resilience that is emerging, is an effort to establish the right risk profile and appetite. This paper supports the statement that, far from minimal regulatory adherence, adequate approach to risk management consists of fundamentally strategic capabilities of the company.

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## **BALANCED SCORECARD – ANALYSIS OF THEORETICAL AND APPLIED SOLUTION**

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### **ABSTRACT**

*Balanced scorecard (BSC) is a practical tool helping organizations to implement their business strategy. Each perspective requires setting strategic goals, criteria and action plans. The continuous process of BSC development is focused on combining four and more perspectives. The balanced scorecard focuses the efforts of the reviewed organization on the critical the analysis of future and its binding with the meaning of the ideal.*

**Keywords:** *Balanced scorecard, Performance measurement, Strategic management, Control, Organization*

### **1. INTRODUCTION**

One of the specific features of recent years consists of the dynamic development of concepts, models and technologies for corporate and public management. Special attention is paid to strategic management. Analysis of the activity of large and medium-sized economic organizations, functioning without strategic management adapted to them, is already a very risky undertaking. Research in this area contributes to the emergence of new paradigms, concepts and tools. Undoubtedly, the balanced scorecard is a valuable management practice. One of the roles of such measurement, especially in the form of balanced schemes, is to facilitate the inspection of the progress of the organization's activities (Terziev, Georgiev, 2017). The starting point is to understand that relying fully on financial results while assessing goals implementation of establishments is incorrect. The adaptation of the balance sheet-result analysis to the new conditions both gives credit to the traditional measures and completes them with new indicators for the expected state and development in the future. The Balanced Scorecard (BSC) (Kaplan, Norton, 1992), presented in the early 90s of the twentieth century, is considered the example of this type of analysis.

### **2. BALANCED SCORECARD – ANALYSIS OF THEORETICAL AND APPLIED SOLUTION**

The idea of considering business from the perspective of "scorecard" has been of much interest since the introduction of the model in 1992. The reason is that larger numbers of managers feel the need of more than just generally accepted short-term reports, like developing skills needed for the establishment to succeed in the future, although it is possible that these changes will deprive them of profits in the current year and lead to increased costs.

This is the fundamental reason why companies need a balanced scorecard. This need is even more obvious for establishments whose main goal is not gaining profit, such as government agencies and non-profit organizations, and it highlights other good reasons why a balanced system is successfully established in the world of business and consulting services. Firstly, this is a very timely idea. Outdated traditional measurement systems, as well as increasing efforts to survive in ever-complicating conditions, provide great opportunities for BSC. Secondly, BSC is extremely well defined and presented very carefully both by its creators through a series of articles in leading scientific journals and by leading consultants at scientific forums. Thirdly, BSC seems simple, but it has a broad spectrum. The advantage of this is that, at first glance, the BSC possesses sufficient transparency and comprehensibility. Yet on closer examination of the concept itself, it becomes clear that so-called “simplicity” is only apparent.

Prerequisites for approval of the management model balanced scorecard for results assessment can be analysed with the help of several aspects:

- The low efficiency and one-sided orientation of the management control in terms of finance, and hence the distortion of the database when creating a strategy;
- The need to implement a widely applicable model that measures effectiveness, analyses relationships and registers trends and directions of strategic development;
- The combination of financial and non-financial measures of the activity - their role in the implementation of effective management and control at all levels.

From 1992 to the present day, interest in the balanced scorecard has been growing steadily. The concept motivates many managers to improve their activity. Middle class managers are particularly responsive. It is easy for them to look at their actions as a balancing act between different significant interests from the point of view of the balanced scorecard. The approval of the BSC as a means of control encounters difficulties as it overturns the seemingly more practical profit targets of senior management. It is therefore important to carefully consider what key coefficients and non-financial criteria should be set in it.



*Figure 1: The Balanced Scorecard Framework*

In the balanced scorecard, the result criteria are combined with criteria describing the resources expended or the activities performed, and this combination serves as an incentive. Well-designed cards combine in their content several perspectives (Fig. 1) and two elements that are difficult to distinguish. They are bound in a system of goals and means. For people in charge of logistics, delivery time is a result, but for customer relationship purposes it is considered as a force increasing customer loyalty. In this line of thought, it can be argued that the cards largely represent the ability of business to be based on assumptions about the relationships between the individual coefficients and these assumptions to be used to accomplish a particular task.

Through their high insight, markets are fragmented according to customers' individual needs. This process is a real challenge for the adaptive ability of business. Communication with customers should be focused on an individual and on meeting their needs. This requirement applies not only to companies that sell to other companies, but also to the so-called mass market. Communication encourages and stimulates growing consumer expectations about products and their application. "Individually adapted and relationship-based marketing implies that the ability to manage the already distinct relationship between customer and product is improved" (Treacy, Wiersema, 1995). Due to the lack of standard solutions, the success factors in this aspect are mostly the information systems and the competence of the employees. All these requirements impose the need for dynamic organizations with a high degree of employees' autonomy. Traditional financial control is not suitable for this environment. Not only because the information it provides is often outdated and inaccurate to be used as a basis for customer relationship or product solutions. In addition, autonomous employees also need goals and initiatives other than the usual ones, which are based on profit and return on investment and are based on the income statements in financial accounting. We need other guidelines to indicate a way compatible with comprehensive foresight or business concept. The whole organization must adopt the unity of strategy and business rules, which are based on consensus between the necessary priorities. Therefore, a balanced system has its defined meaning and role. The concept helps in the process of achieving a common opinion about the business environment in the company. It enriches the management and control tools and directs them in a strategic direction, rethinking their effectiveness and provoking their improvement in functional terms. The concept of "balanced scorecard" includes not only the specific structure of the "card", but also the process of its use. Thus, the concept of a balanced scorecard is an element of a well-developed management and control system, focused on a strategic perspective and a response to criticism directed at traditional management and control. This is where we can observe the connection of the Kaplan and Norton's original assumptions for the control of the balanced scorecard with other similar assumptions and with the idea of intellectual capital of an organization. With a balanced scorecard, financial responsibility and management are replaced by a richer picture of reality. Not that the monetary criteria have become less important, but in this regard, it is necessary to form a balance in the transition from financial to strategic management of organizational activities. In the last decade, there has been a growing criticism of traditional management and control systems as based solely on financial criteria. The reason for this is that today's conditions differ from the conditions at the time of establishing the understanding of traditional management and control. Mainly traditional control stopped developing in 1925. All the accounting procedures used today already existed back then: budgets, standard costs, transferred payment/price of products or services when traded between individual branches of the same organization and not on the free market - the DuPont model, etc. The role of the management-control system was to make sure that the organization was efficient, therefore the management focused predominantly on costs. Since World War II, industry has undergone tremendous technological change, and most organizations have scaled up and complicated their structure. Modern technologies and production processes lead to new requirements for management control systems of companies. The financial criteria illustrate the results of decisions already taken, but are not an adequate foundation for long-term strategic development. Many people realize that in order for a company to be competitive, it needs more complete information about the various aspects of its business. For this reason, the 80s are characterized by a boom of concepts and instrumental models such as: Full quantity management (FQM), production management, (Kaizen), business process re-engineering (BPR) and others. But initiatives rarely come from the accounting and financial control department. The objectives of the new tools establish a vague link with traditional control systems, as they demonstrate continuous progress over time, basing on ideas and suggestions

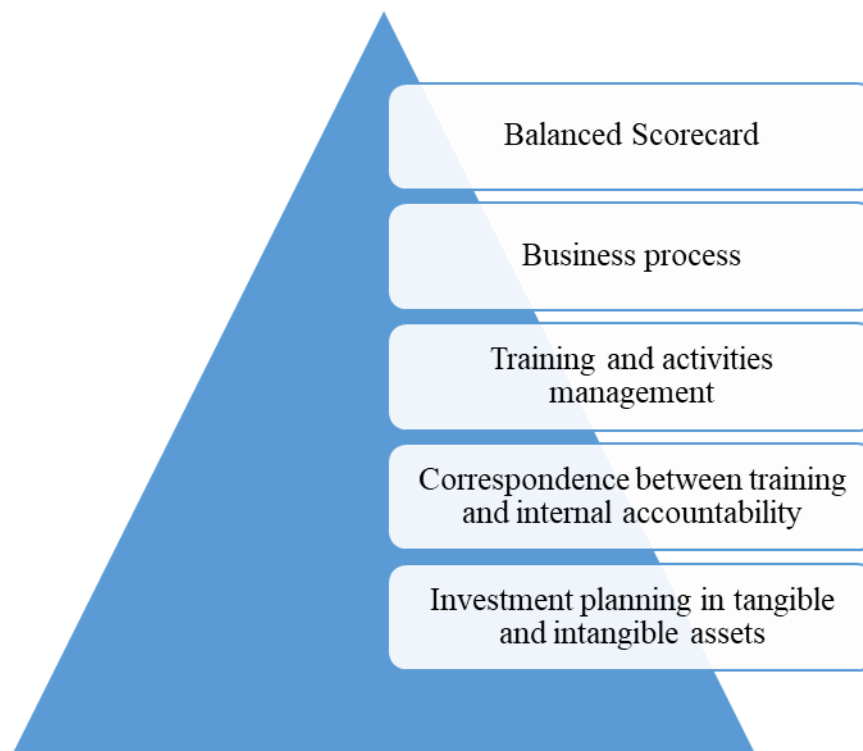


from the organization itself. A strategy based on processes that meet the buyer's needs is incompatible with short-term thinking, the result of focusing solely on financial criteria. There are critical opinions about the traditional control, as it generates certain deficits in the management because it:

- Provides misleading information when making decisions. Data about costs, revenues and profits is the basis for decision making in one company. "Traditional financial criteria show the results of past activities. This type of information may lead to action incompatible with the strategic objectives" (Goldenberg, Hoffecker, 1994).
- Does not take into account the requirements of today's organization and strategy. Focusing on monetary criteria forces companies to ignore less tangible non-financial criteria such as product quality, customer satisfaction, delivery time, flexibility, new product development time and a higher level of employee competency. The used criteria register false indicators about the efficiency and profitability of the organization.
- Encourages short-term thinking and sub optimization. Financial control does not imply long-term thinking. It can lead to redundancies in research and development, a return to out-dated training methods, weak motivation and initiative programmes, and delayed investment plans. Thus, the main problem turns out to be "sub optimization" over time, and the challenge is to achieve a balance between short and long-term work.
- Management based on financial criteria downplays the role of control. The structure of management and control systems is determined by the need of financial accounting of external information. The shareholders in the company constantly ask for information about the work of the company in order to be able to compare it with alternative investment opportunities. Financial criteria alone do not provide reliable and accurate information on business development (Johnson, Kaplan, 1987).
- Generates misleading information about cost allocation and investment control. The traditional basis for cost allocation - allocation of indirect costs on the basis of direct costs - is out-dated. The relationship between direct and indirect costs has changed as a result of increased costs for research and development, collaboration, streamlining production, etc. Mixed subsidies for products make it difficult to assess the actual profitability of each. In addition, it is often impossible to estimate the long-term product developing costs. Costs should be allocated in a different way from the traditional method of standard benefits.
- Provides abstract information to employees. Another disadvantage of the financial criteria is that they mean nothing to most of the employees, since they do not find a connection between their work and the figures in different types of reports. "The systems are too complicated and thus become an obstacle to front line flexibility" (Shank, Govindarajan, 1993).
- Ignores the role of the business environment. Traditional systems based on financial criteria ignore the customer and competitor perspective and thus fail to warn us early about changes in the company's business and industry: the financial key coefficients of most control systems are rather internally than externally oriented. "These criteria are used for comparisons with past periods based on internally established standards. This makes it much harder to compare the company with its competitors, even though this information is as important as the company's work to achieve the set goals".
- Provides misleading information. Today's leaders tend to use information from monthly and quarterly reports, a factor that tipped the scales in favour of short-term investment decisions. In addition, this short-term perspective makes it possible to manipulate financial criteria so

that “key financial coefficients may be misleading and unreliable for analysis and decision-making purposes” (Eccles, Pyburn, 1992a). It is the balance between attitude and state that puts on the agenda the solution to the dilemma: a document or a process is the phenomenon of BSC. “When talking about a balanced scorecard, it is considered that success must reflect the balance between several important elements of the work, the reasonable balance between the attitude and the state of the developed and developing components” (Friedag, Schmidt, 1999). It is important that the card is designed as a document of both achieved and expected results. Then it is an alternative way to visualize the business plan.

In its early samples, the balanced scorecard was considered as a method of value measurement. In these cases, it is too difficult to find strong grounds for linking the process to strategy management and control. At this early stage, the development of BSC is tied to specific initiatives and events, planned and funded. There is mutual influence between the form of the card and the whole planning process, the budgeting process in particular. It presupposes the formation of a balance between short-term and long-term planning and the opportunity to outline the necessary strategic direction of the efforts of each member of the organization (Fig. 2). The card often creates occasions for discussions that are very useful, but might not take place without it. Thus, a document is formally a card, but it actually contains much more.



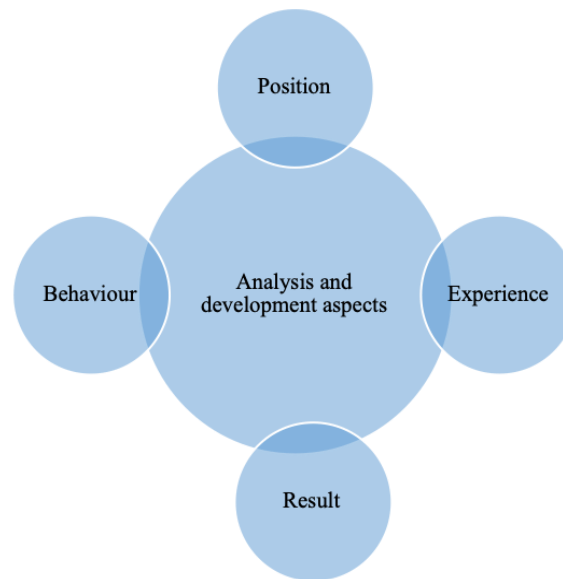
*Figure 2: Balanced Scorecard*

The idea goes far beyond simply creating a performance assessment system. Although there are many opinions about the card, very often this concept contains some other meaning. From practice it has been established that the cards have different applications - from budget management to strategy management. They all have one thing in common: their appearance in recent years is caused by the need to measure and manage both the effectiveness of the organizations in question and far more complex processes, such as the implementation of strategies. At the heart of the concept of Balanced Scorecards is the idea of developing an innovative system for measuring the organizations` activities.

Currently, corporate organizations and companies operate in a new type of knowledge-based economic environment, where it is necessary to manage virtually immeasurable activities such as innovation and human capital. The organizations themselves are realizing that in the new type of economy there are new valuable phenomena, such as people's knowledge, new technologies and software products, corporate culture that supports innovation. It is acknowledged that organizations do not have the appropriate tools to successfully implement and monitor their new strategies (Epstein, Manzoni, 1997). The Balanced scorecard is a practical tool helping to implement business strategy of an organization. Strategic goals, criteria and action plans are developed for each perspective. The continuous process of BSC development is focused on combining the four and more perspectives. The card directs organization's efforts towards the critical analysis of the future and its connection with the meaning of the ideal. The process of implementation of BSC in one organization requires establishment and regulation of certain cyclicity and principles (Kaplan, Norton, 1993a). Through goals and incentives, a conference link is created between all hierarchical levels for effective communication. BSC is distinguished by logically connected and easily understood architectonics for essential expression of the adopted strategy. The emphasis in the overall analysis of the BSC model is on the logic of combining different criteria. In addition, it is retrospective in nature, due to the fact that it illustrates the history of organizational strategy. The compact form is along with specific principles in construction, proven causality and logical organization. The process of modelling BSC, the constantly proving hypotheses for certain causal relationships, generate alternatives for self-improvement of the model, and hence for the forms of management and control in the company. The management process begins with the organization's ideal and strategy, and the card is a creative method for business management and control. The creative nature of the process of BSC development and implementation is determined on the one hand by the ability to bring ideal goals into real activities, and on the other hand, by the effective strategy being the result of the skilful management and control. "But from the experience, the descriptive nature of the card often leads to new ideas about the organization's future and a reassessment of its strategy" (Zairi, 1994a). For this reason, the first step in the card development process is to develop a strategy - a stage that can already be implemented during other organization's processes. In this case, the preparation of the card involves simply confirming the existing strategies, although during the development process they must be expressed as goals and factors. The process highlights the way the company's strategy is being transformed as criteria and goals for responsible managers and the card's ability to provide comprehensive and balanced descriptions of their responsibilities. "The process should be repeated at every level of the company so that all employees feel that they are involved and are aware of their role in the strategic plan" (Thor, 1994b). An important part of the process is to link together the criteria from different perspectives and the cards for different parts of the organization. The company shall concentrate its resources in a number of selected areas. The process involves a large number of employees whose contributions are needed for different purposes. Cards for various activities need to be clear enough so that they focus their efforts in the right direction and understand their contribution to the overall effort. In order for the card to be available for use in the whole company, the procedure for working with the criteria must be simple and clear. The data must be recorded, verified and put into circulation. "Usually the card uses a combination of data that is already used by the company and new criteria, some of which may be quite simple in nature. When designing a strategic control card, it is normal to consider practical aspects of the collected data and of the existing systems" (Jensen, Rieker, Schdjer, 1999a). This is especially true for the introductory stage, when the card has not been completed yet. But even a temporary system needs practical solutions and answers to many questions concerning the responsibility for management and control quality assessments.

One of the functions of the card is to control the company's operations. It provides a way to describe expectations and performance, thus laying the groundwork for discussions - how each individual can contribute to the achievement of company's ideal. Efforts in developing customer database or attracting customers to a new market segment may not be profitable in the short term, but may be justified given the long-term benefits expected. "The card serves as a basis for determining the appropriate role of these efforts in the whole balance and for distributing this role throughout strategic control" (Baschin, 2001). Over time, the effect intensifies. An appropriate incentive structure and practical measures are needed to work with the information collected so that it is easy and feasible to develop a set of good practices for the card. It is especially important to discuss issues related to the factors creating the card and to their non-financial nature. Putting the concept of "learning" organization into practice is of key importance to the development and implementation of the BSC model. In practice, there is a process of sharing intellectual models, where a large part of the staff can participate. On the one hand, this process contributes to the development of balanced cards at all levels. The knowledge and experience of many staff members are used to develop and evaluate many hypotheses about the extent, factors and indicators of success of the company and its subsidiaries. On the other hand, the process of card developing creates important prerequisites for its implementation. The broad discussion aims at reaching a consensus on the final parameters of the cards and influencing the individual intellectual models. In this way, the cards are established and perceived as an action plan and an alternative for self-improvement. One fundamental prerequisite for establishing capital for the organization by the highest level of management is that all interested parties shall reach an agreement on the mutual activity. Therefore, the organization shall be provided with sufficient resources, including time resources, so that everyone involved in the project receives the information necessary to develop a hypothesis that will protect and become the main motive for behaviour, subject to the implementation of a balanced card and the process of putting it into practice. Experience shows that in many cases when discussing BSC implementation, senior management underestimates the benefits that the organization would gain if project participants get an impression and general idea of the actual state of the inside and outside (environment, industry) of the organization. This is often associated with some secrecy that surrounds this kind of questions and information. Such cases prove the existence of two problems regarding the information, i.e. the problem of data distortion and the possibility of a certain hidden incompetence. These problems cause a lot of negative effects, the main one being that many employees also need this kind of necessary data when making the right decisions. Behaviour is guided by moral values and opinions, which in turn are based on previous experience. "In order to achieve the necessary changes we need to create an environment that lets us gain new experience that will influence opinions and behaviour" (Hronec, 1993b). Sometimes, however, external intervention is needed to create and implement the new experience. One of the goals of a balanced system is to stimulate innovation. When the organization subsequently acknowledges and analyses the results of its changed behaviour, a form of self-reproducing and self-regulating process will already be established (Fig. 3). It is certain that the whole process and the quality of work will improve significantly if its participants are given relevant basic documentation, as well as the opportunity to question and revise it and further develop it. "A better understanding of the whole situation from the received necessary information and the time pays off later in the process, when the participants resume their daily tasks" (Hoffman, 2000).

*Figure following on the next page*



*Figure 3: An organization during the process of change*

An important condition for the success of a project such as Balanced Scorecards is the choice of an appropriate organization. Depending on the size and status of the company, at the beginning it is good to specify the scope of activities to be included in the cards, organizational structure, speed and direction of implementation. If the company is smaller, it may be best to design a card for the entire organization, while for a large company and/or corporate group, it may be more appropriate to start the process with one or two pilot projects. In the latter case, the selection of a suitable unit within the company must be based on a combination of willingness to participate and suitability for the project, so that the company makes the most of the initial experience in its further work. “Practical experience has shown that it is good to work with both internal units and units with wider external contacts” (Stewart, 1991). Another decisive factor in choosing the method of implementation is the current structural and legal framework of the company. If the company is undergoing rapid changes, the card process itself can be a useful tool. In such cases, staff training would be useful in implementing a balanced scorecard and would help build understanding and consensus on future strategies and any changes that may follow the process. In these cases, it is advisable to start by developing a card at the highest level of hierarchy, which in the next stage can be divided into appropriate parts. In order to prepare and receive support for a necessary change within the organization, the top management can put up a strategic card to discussion. The purpose of this presentation of the card is not only to gain support for the whole strategy, but also to start a discussion on how to implement the process more effectively. The first step after developing a high-level card is to allow each unit or appropriate group to review it and discuss how it affects their specific situation and how they think they can contribute to fulfilment of the company's ideal and goals. They may also discuss how to work more efficiently and smartly. Only after this stage is completed can they begin implementing changes in the organization. The changes also gain additional support and continue to apply when cards are developed for the relevant units of the new organization. The process itself is extremely important and all participants need enough time to understand it well. How long it takes depends to some extent on the size and status of the company. In a small company, the project can be completed in 6 months at best, but if the organization or situation is more complex, it may take several years before the whole company is influenced. It should also be noted that the process of implementing and working with a balanced card never stops completely (Ruddle, Feeny, 1998). To a large extent, the effect of the application of this model depends on the development process itself, where many employees participate in analyses and discussions about the capabilities and state of the company.

In addition to discussions and understanding the ideal, the main part of the work is further analysis in order to identify strategic perspectives and success factors. For this reason, the process should involve the maximum number of employees and be performed by mutual agreement as far as possible. It is particularly important that the random connections and priorities that are clarified during the discussions are well understood and widely supported. If there is a lack of understanding, the process is cumbersome and there is a risk of failure. For the successful combination of the ideal with the daily operations, it is important that the development process starts from two directions. In the beginning, the senior management shall perfect the ideal and spread the idea to the rest of the organization. Later in the process, it is necessary to start a dialogue throughout the organization as to which activities will be affected and which will actively contribute to the success of the ideal. The significance of the commitment of senior management and its motivation must be clearly stated. It shall be fully dedicated to the whole process and shall participate in the development of the first basic elements of the card. It shall be sure that this task is seen as a priority and that the whole organization supports it. In addition to active participation and interest of the senior management, it is important to involve in the initial stages as many people who influence the opinions of others as possible. They are especially important for recruiting very highly motivated "missionaries" for further work. When consequently the process continues in other parts of the organization, most employees should be more actively or passively involved. "While the activity level may vary, shared experience shows that there is great benefit in involving as many people as possible in discussions on how common goals will affect day-to-day operations and how the individual or group can contribute to success. These discussions often help participants see things in a whole new light" (Klingebl, 2000a). Depending on the size and structure of the company, it usually turns out to be a good idea to form a project management team to be delegated with the process implementation (Zahariev et al. 2020; Laktionova et al. 2019). The decision regarding the composition of this team is critical to the success and the management shall demonstrate an objective choice of the participants. Therefore, it would be unreasonable only for representatives of control and audit departments to take part in the project, although very often they are the people who initiate such projects.

### 3. CONCLUSION

One of the main advantages of the card is the fact that it replaces the traditional method of accountants, that at the same time engages goals and criteria that are more easily accepted and interpreted in the form of a card by non-accountants. The project management shall constantly monitor the work, make suggestions and adjustments that will facilitate the understanding of the process as a whole and will ensure the consistency of the card (Terziev et al. 2017a). It is absolutely impossible to successfully develop and implement a BSC in an organization if it does not have well-defined mission, values, vision and strategy. The lack of these elements hinders the effective management of intangible assets, such as the human potential and know-how of any organization. This fact is considered as a norm and in developing economies it is a relatively often practice that human resource managers are the initiators of the processes of formulating and defining the mission, vision and values of their organization. It is an established practice to attract external consultants from the academic and consulting circles in such projects.

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# **TOURIST SATISFACTION WITH THE QUALITY OF HOTEL SERVICES: THE CASE STUDY OF THE FAMILY HOTEL ON THE MAKARSKA RIVIERA**

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## **ABSTRACT**

*Many business subjects within the hospitality industry face unexpected, dynamic and deep changes on the international market on daily basis. Tourists expect full service and good quality for reasonable price. In order to survive, hotels today have to invest in service updating to meet the demands and expectations of the final customers. Providing good service is one of the challenges hotel management will face in the upcoming period and also one of the most important preconditions for achieving competitive advantage on the global market. Therefore, the quality of the service, together with its careful monitoring, will enable hotels to create a differentiated tourist product and generate positive economic effects and loyalty from their customers, and ensure a long-term and stable business. With the aim of improving the quality of hotel services and the satisfaction of the final consumer, the owners and managers face some difficulties in choosing the methods and ways of evaluating them. The main reason for that is because they are not familiar with the manner guests evaluate something as having good quality and because they lack suitable instruments for assessing the expectations and perception of the hotel guests. If there is a discrepancy in the point of view between demand and supply, there is a chance of a gap being created in the service quality. This paper places the focus on the SERVQUAL Model as the most frequently used model and a referential framework for measuring the quality of hotel services. It was used for the purpose of the primary research on tourist satisfaction with the hotel services provided at Hotel Ivando in Drvenik. The users of the accommodation and the half-board service at Hotel Ivando expressed their satisfaction with the services, i.e., the average grade of the service perception was better than general expectations the hotel guests had. These results imply good allocation of human and financial resources made by both the owner and the hotel manager.*

**Keywords:** *service quality, SERVQUAL model, tourism, hotel*

## **1. INTRODUCTION**

Quality represents the backbone of successful business and hotel industry is no exception. Survival of small family hotels on the dynamic and highly concentrated market and creating a differentiated product that will ensure loyalty from the final consumers, i.e. hotel guests, is in positive correlation with steering the business towards providing a good quality service. Hotels that offer high-quality services and products also have a high level of user satisfaction and can expect higher profit margins when compared to other hotels of the same category (Mikulić, 2009). The quality of hotel services can be used for defining the way the hotel conceptualizes and offers its own tourist product, the way it treats its own employees and the way it creates its own strong image. Hotels that strive at ensuring the quality of the service and implement it in the business policy can realise a considerable comparative advantage (Uran, 2010: 405). It is therefore crucial to continuously investigate user satisfaction to be able to adjust to the changes in their wishes and needs.



The concept of hotel service has been looked into for several decades, but the scientific and practical work in the Republic of Croatia still have not been entirely using the models and standards necessary for achieving good quality in hotel industry. With all of the above-mentioned in mind, the subject of this paper relates to the investigation of satisfaction of the guests with the use of the SERVQUAL Model, i.e. the comparison of their expectations and the perception of the experienced quality of the hotel service. The main goal of the paper is to assess the level of satisfaction with the hotel service. The empirical research was conducted for the purpose of attaining this goal, i.e. of evaluating the expectations and perception of the users of the hotel services and of assessing and calculating the SERVQUAL gaps and, finally, of providing the qualitative assessment of the hotel services.

## 2. THEORETICAL BACKGROUND

In the last few decades, theory and practice have confirmed the need and importance of a structured approach to quality management in hotel industry. The supply is growing on a daily basis because new accommodation is being built and there are new destinations emerging on the market (especially in Asia and the Pacific area). At the same time, there are more and more well-educated, experienced travellers that are getting more critical of the service they receive. Tourists expect full service and a good price. Therefore, in order to survive, hotels today have to adjust their business to the situation at hand. Hotel industry, now more than ever, has to invest in raising the quality and satisfying the standards to meet the expectations of the final customers. Kotler (2001: 19) states that *'American society for quality control defines quality as the sum of the features and characteristics of the product or the service that support its ability to satisfy the customer's need. Definitions that are customer-oriented suggest that quality begins with the needs of the customer and ends with their satisfaction'*.

### 2.1. Definition of quality in hospitality industry

Although the term "quality" has been frequently used in professional and scientific literature, still, there is no acceptable definition. Different circumstances require different approaches to the concept. Tushman (1980) defines quality as the synonym for excellence. If quality is seen as the synonym for excellence, there is no possibility for practical use. Also, there is the question of who determines quality and how, when and to what extent the quality has been achieved. Moreover, this type of definition makes empirical research difficult and even impossible. Anić (1991) defines quality as the feature that distinguishes something from another thing of the same type by desirable features, i.e. that which has good characteristics is of good quality. Leffler (1982) gave the definition of quality as the presence or absence of a particular feature. If a certain attribute is desirable, a larger amount of this attribute ensures better quality of a certain product. This approach sees quality as something permanent, i.e. long product life. Shewhart (1931) defines quality as compatibility with the specifications, i.e. the level to which the product satisfies certain design standards. Any deviation would result in poor quality, having the consequence of increasing the costs during the reprocessing, product refuse or defect. This definition seems incomplete, especially from the perspective of defining quality in hotel industry. Vrtiprah and Sladoljev (2012) state that *"Every hotel product is extremely complex because all material and immaterial elements of demand are interconnected and important for the guests' satisfaction"* and as such in connection with the evaluation of the quality of the entire product. Material elements are, for example, hotel rooms, restaurant, reception, bathrooms etc., and the immaterial elements are in relation with the interaction of guests with the hotel staff. Juran (1974) suggests that a good quality product or service is that which successfully satisfies the buyers' needs. A good quality service or product is the one that is attractive to us, but available at accessible prices (Ishikawa and Lu, 1985). Anybody that has the goal of defining the concept of quality has to also include the possibility of constant change

in demand of the final consumers. The success of an organization, in this case the hotel, largely depends on its possibility to fulfil the wishes and needs, i.e. demands of the users of the hotel product. But one should take into consideration that the users of the hotel product are only one of the participants that deem the quality important. In hotel industry, the participants that find the quality important, but do not consume it as such, are hotel owners, shareholders, suppliers, investors, the government, the society, local community, employees etc. With all this in mind, the definition should be adjusted to the needs of other participants, not just to those consuming the hotel product. In all of the above-mentioned definitions of quality weaknesses can be detected, especially when the term “quality” is used in the context of services. Therefore, the International Organization for Standardization has suggested a new definition of quality that defines it as a situation in which a set of fundamental characteristics continuously meets the changeable demands of the final users and other participants in the organization (International Organization for Standardization, 2005: 7).

## **2.2. Fundamental determinants of the SERVQUAL Model and its adjustment for hospitality industry**

The assessment of satisfaction and elements that influence the satisfaction of the final users of hotel services is the primary goal of any hotel that wishes to survive in the increasingly competitive market. So, ensuring that the tourists are satisfied is of great importance to the development of tourism on the Makarska Riviera, considering that the destination is encountering constant competition both on the domestic and foreign market. Providing quality service improves satisfaction of the final consumers and brings increase of the number of international arrivals, repeated consummation of the same tourist products and the establishment of loyal and constant relationships. Moreover, satisfied guests spread positive word about the hotel to their relations, friends and acquaintances, which influences the positive image of the hotel and, consequently, leads to lowering of the costs of attracting new consumers of tourist product or service. Hotels have to strive at providing the guests with not just the tourist products and services, but also quality and satisfaction. Considering all of the above, the development of a model for measuring the quality of hotel services precedes the process of attracting and keeping the guests.

### *2.2.1. Emergence and importance of the model*

Gjurašić (2019: 26, according to Marković, 2005) states that the complexity of the concept of service quality is evident in the fact that its evaluation is of subjective nature, and as such, it is completely different for different people at different times. Since services are characterized by the immaterial and by variability, the providers of tourist service find it difficult to objectively assess the quality provided and therein advance their performances with the aim of fulfilling or surpassing the expectations of the clients. Because of this difficulty all hospitality business subjects have been facing, at the beginning of the 1980s, the scientist tried to create a model that could objectively measure the quality of the service. Pursuing that idea, Parasuraman, Zeithaml and Berry (1985) created a model, i.e. a multidimensional research instrument that aimed at assessing the expectations and perception consumers have of the received service, represented through five dimensions that are assumed to represent the elements of a good quality service. Parasuraman, Zeithaml and Berry (1985) point out how:

- service quality is much more difficult to assess than the quality of a product.
- the perception of quality results from the comparison of clients' expectations with the received (real) service.
- quality assessment is not only based on the result of the service, but also includes the evaluation of the service providing process.'

In the early 1980s, Parasuraman, Zeithaml and Berry (1985) identified 10 components a good quality service possesses, only to synthesise them a short time later to 5 basic ones: tangibility, reliability, assurance, responsiveness and empathy. From the starting 10 characteristics, the final 3 remained; reliability, tangibility and empathy, while the other seven were combined into the two: assurance and responsiveness (Mulder, 2019). Although the model was first designated for the service companies dealing with telecommunication, banking and maintenance, the SERQUAL Model is now suitable for measuring service quality in the entire service industry. Today, the model is used for investigation of the expectations and perception of the service (evaluated by the users) and their comparison to establish possible discrepancies. The results are used for the comparison of the situation before and after the changes have been introduced and for setting clear standards for assessing the quality of the service. The SERQUAL Model is an analytical tool that helps the managers detect the possible gap between the variables that influence the quality of the provided service.

### 2.2.2. *The hotel service quality gap model*

Tourist product is generated and consumed simultaneously, while in other industries, the production and the consumption are separated in time and space. Furthermore, in hospitality industry, direct contact of the staff with the guests is implied, leading to frequent misunderstandings and mistakes, be it because of insufficient knowledge or lack of skill, lack of attention or simply, the weariness. The mistakes made due to these factors are impossible to be eliminated completely. With the aid of the system for quality control, hotel managers try to minimize the mistakes and improve the guests' perception of the hotel service quality. Today, the quality of the hotel is not defined solely by the categorization the legislation mandates, but also by the ability to deliver products and services previously created in a way to fulfil the wishes and needs of each guest. Since the beginning of the 1980s, most debates focused on the conceptualization and measuring of the quality of the service based on the gap model. The overview of the existing literature evidently shows that most academic papers focus on the gap model based on the work of Parasuramana, Berry and Zeithamla (Uran, 2010: 407). The Gap Model of Service Quality, also known as "*The Service Gap Model*", has been developed to identify the problems that arise when the service is provided. The model defines the quality of the hotel service through guest satisfaction. The idea behind this model is to identify the issues and mistakes through recognizing the gaps in the model and trying to avoid them. Hotel management can influence service quality by narrowing organizational gaps and increasing user satisfaction. The Gap Model implies that the difference between the expected and the received service is caused by organizational gaps (Uran, 2010: 408). These discrepancies (gaps) can be divided into: position gap or the gap of knowledge, specification gap, service delivery gap, communication gap and evaluation gap. The following section of the paper places the focus on three gaps characteristic of hotel management: position gap, specification gap and evaluation gap (Uran, 2010: 410). Position gap reflects the difference between customer expectations from the service and management's understanding of those expectations. It is also termed the gap of knowledge because management doesn't usually know what customers expect from the service. There are several reasons why this gap occurs: insufficient orientation towards the consumer, lack of commitment to provide good quality service and a clear mission and vision of the hotel management (Uran, 2010: 409). Second gap represents the difference between hotel management perception of the guests' expectations and the characteristics the provided service has at the hotel they manage. Candido and Morris (2000) suggest that this gap occurs because of poor business analysis and the management's failure to define detailed specifications, discrepancies between the specifications and management perception of the expectations the guests have. Oftentimes, hotels have no formal specifications, which results in the services being variable and of lower quality (Zemke and Schaff, 1989).

Service specifications are necessary, especially because they facilitate staff management in their daily routines, i.e. activities. Furthermore, service specifications enable a more efficient evaluation of the quality of the provided service. Third gap, the evaluation gap and its instruments (the SERVQUAL Model) represent the evaluation of the quality of the service in the model. For the investigation to be valid, it is necessary to acquire certain information before the hotel guests consummate the service in order to assess their expectations properly, and only then examine the perception of the acquired service. It is this gap that prompted the need for creating the SERVQUAL Model. This gap is created because of poor measuring (wrong assessment criteria and comparison models, lack of responsibility, self-promotion and perception of the service quality) and insufficient feedback (short time for collecting data and inadequate spreading of information about success).

### 2.2.3. *SERVQUAL methodology*

Hotel service quality represents the primary goal of every hotel. Therefore, measuring this quality is capturing more and more attention in both management and marketing. Hotel service providers want to offer the guests the best possible quality with the aim of assuring their return and lower the costs of attracting new guests. Moreover, this has the impact on ensuring the accommodation and other capacities being booked in the following years. The success depends on the desire of the management to conduct systemic evaluation and the possibilities of the assessment of hotel guest and staff satisfaction with the hotel service quality. The complete evaluation of the quality service, carried out by the guests, is not only influenced by the acquired service, but also by the way it is provided by the hotel. Therefore, two basic elements for measuring hotel service quality are evaluation and recognition of guests' expectations and their comparison with the guests' perception of the level of the actual service quality. Since the services are principally intangible, variable, transient and inseparable, there arises the issue of measuring their quality. With that in mind, the initial step during the assessment of the service quality is identifying service attributes that influence the quality. It is necessary to make a list of desirable attributes based on the basic needs of the guests. The scale that has all desirable attributes of hotel services is the SERVQUAL scale representing the base for measuring service quality in general, and especially hotel service. The model suggests that consumers are the most relevant evaluators of quality of the specific service. Consumers base their assessment on the gap between the expectations from a service and their perceptions on the quality level of the acquired service. According to Parasuraman, Berry and Zeithaml (1985), good quality service consists of five dimensions:

- 1) Reliability – the ability of the hotel service provider to offer the promised service accurately.
- 2) Responsiveness- the willingness of the staff to always be at guests' disposal and provide the service promptly.
- 3) Assurance – the ability of the staff to be courteous and inspire the sense of trust.
- 4) Tangibility – the appearance of the interior and the exterior hotel facilities, of the equipment, the staff, promotional materials etc.
- 5) Empathy – providing extra care to the guests to personalize the employee- guest relationship.

The main goal of applying this instrument is to find the discrepancies i.e. the gaps between the expectations and the perception of the level of quality of the real service that has been received. The model comprises of 22 variables that, in fact, represent a list of desirable attributes that a service should contain. The respondents expressed their level of agreement on a Likert scale from 1 to 7, where 1 = complete disagreement and 7 = complete agreement with the statement. This model offers the possibility of analysing data in the way that each statement or dimension is analysed separately, or, the total sum of all the variables that are evident on the expectation

scale or the perception scale is calculated, which provides an insight in the complete picture of the gaps. Mikulić (2009: 26) states, according to Parasuraman et al. (1985) and Berry, Bennet and Brown (1989), that with the SERVQUAL Model “... *service quality has been conceptualized as the function of difference between user expectation and the quality component, and the implementation of these components...*”. Thus, quality is defined as difference between the expectations and the perception. The evaluation of the expectations depends on how customers have evaluated each of the 22 statements that describe different characteristics of the hotel (Mikulić, 2009). The same is with the evaluation of user perception of the quality of the acquired service. If the evaluation of expectations is the same as the evaluation of perception ( $P = E$ ), this means that the guests are satisfied with the service i.e. their expectations are in line with the perception of the acquired service. If a positive difference i.e. gap occurs between expectations and perception ( $P > E$ ), the user is then more than satisfied. Furthermore, is a negative difference i.e. gap between expectations and perception is identified, i.e. if the perceived quality of the acquired service is evaluated with a lower grade than the expectations the guest had before the service has been provided ( $E > P$ ), the conclusion can be drawn that the user is not satisfied with the provided service.

### **3. RESEARCH ON USER SATISFACTION WITH THE QUALITY OF THE SERVICE PROVIDED AT THE FAMILY HOTEL ON THE MAKARSKA RIVIERA**

A questionnaire, compiled based on the analysis of other relevant research, was used to conduct the empirical research on user satisfaction with the quality of the service at the family hotel on the Makarska Riviera.

#### **3.1. Research methodology**

The research process on user satisfaction with the quality of the service at the family hotel on the Makarska Riviera consisted of the following steps:

- 1) Analysing previous researches that deal with measuring service quality, its determinants, service quality in hospitality industry and the methods for measuring this service.
- 2) Creating the questionnaire based on the literature overview.
- 3) Testing the questionnaire in a pilot-survey to detect possible errors, ambiguities and the effectiveness of the methodology.
- 4) Distributing the questionnaire to the guests of Hotel Ivando after it has been corrected.
- 5) Analysing primary data with the IBM SPSS *Statistics 23.0 (Statistical Package for Social sciences)*.
- 6) Interpreting the primary and secondary data.
- 7) Informing the owners of the hotel on the research results.

To achieve the goal of this paper, primary data were collected with the questionnaire that was filled out by the guests of the family Hotel Ivando on the Makarska Riviera. The choice of the questionnaire and the methods of data collecting enabled that a relatively large sample be covered in a relatively simple way, which resulted in better representativeness of the sample regarding the population. The guests staying at Hotel Ivando in September 2019 were in the focus of the survey. It is important to note that data collecting with the questionnaire was carried out on two occasions: the pilot survey and the final research. The pilot survey was carried out at the beginning of September 2019 on the sample of thirty respondents. They filled out the paper-pencil questionnaire without the presence of the examiner. Filling out the printed questionnaire was organized during the working hours of the hotel, at the hotel reception, with the authorization of the director of the hotel. The results of the pilot survey showed that some questions were confusing for the guests, which prompted the need for reformulating them to make them clear and unambiguous.

A week after the pilot survey, the final research was conducted and it lasted two weeks. It was also carried out with the same paper-pencil method and the questionnaire was again placed in the rooms.

DIMENSIONS	DIMENSION DESCRIPTION	NUMBER OF VARIABLES
Tangibility	Physical appearance of the building, equipment, staff and promotional materials.	4
Reliability	Ability to deliver the service reliably and accurately.	5
Responsiveness	Employees' readiness to provide the service quickly.	4
Assurance	Staff's attention, knowledge and the ability to inspire trust.	4
Empathy	Providing personal attention and care to each guest individually.	5

*Table 1: Number of the variables used per each dimension  
(Source: primary research)*

For the empirical part of the research, the structured SERVQUAL questionnaire *Measuring service quality in the hotel industry* was used (Akbaba, 2006), adjusted for this research, including the five dimensions and the total of 52 variables. The questionnaire was translated from Croatian into English, Dutch and the Czech language and divided into two parts. The first part relates to socio-demographic data, as follows: country of residence, gender, age, level of education, occupation, marital status, number of overnight stays and the motive for visiting Hotel Ivando. The second part of the SERVQUAL questionnaire includes the five dimensions: 1. tangibility, 2. reliability, 3. responsiveness, 4. assurance and 5. empathy. The expected and the received quality were evaluated by a Likert scale from 1 to 5, where 1 means that a certain characteristic of the hotel service is “*not important at all*”, and 5 means that the respondent deems the characteristic “*very important*”. Table 1 shows the structure of the model used for evaluating service quality, in this case the quality of the hotel service. A short description of each dimension and the number of variables for each dimension from the model had also been also provided.

### 3.2. Research sample

The primary research was conducted on the targeted sample of the guests of Hotel Ivando that stayed at the hotel in September 2019. The questionnaire was handed out to guests who used the accommodation and half-board services. 184 questionnaires had been distributed and 154 collected, out of which, 144 were filled out correctly (expressed in relative frequencies around 78%). The hotel where the primary research had been conducted is Hotel Ivando in a small town of Drvenik on the Makarska Riviera. It received a four-star categorization at the beginning of 2015. The hotel is open from the beginning of April till the beginning of November. Around 90% of the guests arrive due to different outbound and receptive tourist agencies. Here, Rainbow agency from Poland has to be singled out, because it had booked the hotel services for the period of 100 days in 2019. Most guests come from Poland, The Czech Republic, Great Britain, The Netherlands, Germany and Bosnia and Herzegovina. The hotel offers 20 accommodation units that can receive 41 people at a time. To operate more efficiently, it is necessary for the hotel management to monitor the successfulness of the financial investments, as well as the satisfaction of the guests and the employees. This is why the owners had agreed to participate in this empirical research for the purpose of achieving the goals of this paper. The fewest respondents (7.6%) are from the Republic of Croatia, and most are (39.6%) from Great Britain. The second-largest group of guests is from The Czech Republic, 48 of them (33.3%). Most respondents (58; 40.3%) have chosen the hotel through an agency, and 43 of them claimed the reason they visited the hotel was because of the positive experience of other guests.

Only 12 respondents (8.3%) stated they had chosen the hotel randomly. There were more female respondents (61.80% female, 38.20% male). There were five age groups. Most respondents are in the age group from 65 to 75 (3.60%), then there are the guests from 50 to 65 (29.20%), from 75 to 85 (18.80%), from 30 to 50 (6.90%), and the smallest group of them from 18 to 30 (5.60%). As can already be inferred from the average age of the participants, most of them are retired (64.60%), then there are the employed (20.10%) and the self-employed (11.11%), while only 2.10% of them are unemployed and the same number are stay-at-home people.

### **3.3. Research results**

The application of descriptive statistical analysis is the tool used for a simple representation and interpretation of the acquired data from the empirical part of the research. In the following section, the results of the average and mean value of the expectations and perception according to the dimensions of the SERVQUAL Model. Table 2 gives the comparison of the expectations and perception of the respondents for all the statements in the questionnaire. The statements are given in their concise form for a simpler and plainer representation. Table 2 clearly shows that the respondents i.e. guests had high expectations from the hotel in general because even 20 statements had the average grade of 4, while the grade for only two statements was lower than 4. For the statement 19 (*'Hotel has to offer the possibility of room service.'*), the average grade for expectation 3.5139, while the statement 18 (*'Hotel staff has to address the guests with their full name.'*) received grade 2.9444. These data actually show that these two parameters were least important to the guests. Table 2 also shows the SERVQUAL gap for each statement individually, and one can notice that there is a negative sign in front of each. It can be therefore, concluded that the average grade for perception of the acquired service is higher than the guests' expectations.

*Table following on the next page*

Variables (statements)	EXPECTATIONS		PERCEPTION		SERVQUAL gap
	Average grade	Standard deviation	Average grade	Standard deviation	
1. Nice interior and exterior of the hotel.	4.2500	0.7046	4.5347	0.6785	-0.2847
2. Neat staff.	4.7361	0.5287	4.8819	0.3644	-0.1458
3. Modern equipment.	4,5486	0.5398	4.6528	0.5711	-0.1042
4. Materials connected to the offered service need to be in good condition.	4.6250	0.5138	4.6597	0.5813	-0.0347
5. Service provided in the agreed time.	4.7569	0.4618	4.8750	0.3319	-0.1181
6. Service provided accurately as agreed.	4.6736	0.5893	4.7778	0.4648	-0.1042
7. Staff commands good communication skills.	4.5694	0.5375	4.6736	0.6350	-0.1042
8. Hotel staff has to provide the required service promptly.	4.4861	0.6029	4.7569	0.5052	-0.2708
9. Accurate service delivery.	4.6528	0.5587	4.8889	0.3570	-0.2361
10. Quick check-in and check-out.	4.4236	0.6432	4.6528	0.6067	-0.2292
11. Hotel staff must always be ready to assist.	4.7222	0.5079	4.9028	0.3200	-0.1806
12. Hotel staff must always be nearby when the guests need them.	4.2569	0.7266	4.7133	0.4982	-0.4563
13. Flexible in providing the service.	4.2778	0.7521	4.6667	0.5547	-0.3889
14. Courteous staff.	4.7986	0.4024	4.9097	0.2876	-0.1111
15. Smiling and friendly staff.	4.5417	0.6571	4.8889	0.3570	-0.3472
16. Inspiring the sense of safety.	4.6875	0.5351	4.8125	0.4091	-0.1250
17. Well-informed and well-trained staff.	4.6250	0.6355	4.8472	0.3979	-0.2222
18. Hotel staff must address the guests with their full name.	2.9444	1.2670	3.8194	1.1746	-0.8750
19. Room service option.	3.5139	1.0773	4.1250	1.0895	-0.6111
20. Hotel staff must treat the guests with care.	4.4931	0.7572	4.7431	0.5255	-0.2500
21. Appropriate work hours that suits the guests.	4.1458	1.0837	4.6458	0.6842	-0.5000
22. Hotel policy and staff must be in the best interest for the guest.	4.6319	0.6341	4.7708	0.4537	-0.1389

*Table 2: Results of descriptive statistical analysis of expectations and perception of the respondents*

*(Source: authors-compiled based on the data from the SPSS)*

Table 3 shows average grades of expectations and perception of the hotel service quality of grouped variables according to the dimensions from the SERVQUAL Model, together with the SERVQUAL gap for each dimension individually.

SERVQUAL Model dimensions	EXPECTATIONS	PERCEPTION	SERVQUAL GAP
	Average grade	Average grade	
TANGIBILITY	4.5399	4.6823	-0.1424
RELIABILITY	4.6278	4.7944	-0.1667
RESPONSIVENESS	4.4201	4.7343	-0.3141
ASSURANCE	4.6632	4.8646	-0.2014
EMPATHY	3.9458	4.4208	-0.4750

*Table 3: Average grade of expectations and perceptions of grouped variables according to the SERVQUAL Model dimensions*

*(Source: authors-compiled based on the data from the SPSS)*

In Table 3, the SERVQUAL gap is in the span from -0.14235 to -0.475 i.e. the biggest gap (-0.475) is evident for the “empathy” dimension and the smallest for the “tangibility” dimension. This leads to the conclusion that the guests of the hotel had lowest expectations regarding the perception of the physical appearance of the hotel building, equipment, staff and promotional materials, while greatest expectation they expressed regarding the attention and care for each guest individually.



STATEMENT	AVERAGE GRADE
Hotel staff must address the guests with their full name.	2.9444
Room service option.	3.5139
Hotel and the supporting facilities must have appropriate work hours that suit the guests.	4.1458
Nice and interesting interior and exterior of the hotel.	4.2500

*Table 4: Statements with the lowest values from the expectations list  
(Source: authors-compiled based on the data analysis from the SPSS)*

Table 4 displays the statements that have the lowest average value from the list of expectations. Out of four statements that were graded with lowest values, three belong to the “*empathy*” dimension and one to “*tangibility*”. This suggests that the expectations were not high regarding the physical appearance of the hotel, room service, appropriate work hours for the amenities at the hotel and the hotel itself, and that the staff should know the name and surname of each individual guest.

STATEMENT	AVERAGE GRADE
Hotel staff must be courteous.	4.7986
Hotel must provide service at reasonable hours (breakfast, dinner etc.).	4.7569
Hotel staff must look neat and have clean and tidy uniforms.	4.7361
Hotel staff must always be ready to assist.	4.7222

*Table 5: Highest evaluated statements from the expectations list  
(Source: authors-compiled based on the data analysis from the SPSS)*

Table 5 gives four statements with highest values from the expectations list. The highest average value (4.7986) was given to the statement “*Hotel staff must be courteous*”, followed by “*Hotel must provide service at reasonable hours (breakfast, dinner etc.)*”, “*Hotel staff must look neat and have clean and tidy uniforms.*” and “*Hotel staff must always be ready to assist.*”. This supports the statement that hotel guests expect courteous, close and attentive relationship with the staff and value physical appearance of the facilities and promotional materials less.

STATEMENT	AVERAGE GRADE
Hotel staff must address the guests with their full name.	3.8194
Hotel must provide room service.	4.1250
Hotel interior and exterior have to look nice and inviting.	4.5347
Hotel must provide modern equipment (air-conditioning, a safe, a lift, TV, phone and other communication devices).	4.625

*Table 6: Lowest-graded statements from the perception list  
(Source: authors-compiled based on data analysis from the SPSS)*

In Table 6, four statements with the lowest average grades from the perception list are displayed. The lowest average grade (3.8194) was given to the statement “*Hotel staff must address the guests with their full name.*”, and then the statement “*Hotel must provide room service.*” (4.1250).

STATEMENT	AVERAGE GRADE
Hotel staff must always be ready to assist.	4.9028
Hotel staff must be courteous.	4.9097
Food, drink, etc. must be delivered exactly to order.	4.8889
Hotel staff must be smiling and friendly.	4.8889

*Table 7: Highest graded variables from the perception list  
(Source: authors-compiled based on the analysis of data from the SPSS)*

As evident in Table 7, the highest-graded variable from the perception list is *"Hotel staff must always be ready to assist."*, with the average grade of 4.9028 out of the possible 5, which suggests that the respondents i.e. the guests at Hotel Ivando graded the variable from the *"responsiveness"* dimension (Table 7) with the highest grade. Based on the results presented earlier, a conclusion can be made that the guests that use the services of accommodation and half-board at Hotel Ivando are satisfied with the received service and their stay at the hotel i.e. that the average grade of the perception of the acquired service was better than the general expectations the guest had. This leads to the conclusion that the owner and the manager of the hotel allocate human and financial resources well. For the analysis of the collected data, besides the descriptive, the bivariate statistical analysis was used. Regen Turkalj (2016: 56) states: *"...bivariate statistical analysis aims at establishing the significance of variance between the means of various observed groups. With the goal of testing the significance of variance between the means (average grades) of two variables, the t-test for independent samples will be used. This will show if there is a statistically significant difference between the average grades for the expected and the perceived value regarding the age and gender of the guests that participated in the research"*.

	<b>GENDER</b>	<b>SAMPLE SIZE</b>	<b>AVERAGE GRADE</b>	<b>STANDARD DEVIATION</b>
<b>Tangibility</b>	Male	55	4.5046	0.4125
	Female	89	4.5618	0.4099
<b>Reliability</b>	Male	55	4.5709	0.4081
	Female	89	4.6629	0.3725
<b>Responsiveness</b>	Male	55	4.3909	0.5086
	Female	89	4.4382	0.5280
<b>Assurance</b>	Male	55	4.5909	0.4259
	Female	89	4.7079	0.4098
<b>Empathy</b>	Male	55	4.0364	0.5431
	Female	89	3.8899	0.7781
<b>PERCEPTION</b>				
<b>Tangibility</b>	Male	55	4.6181	0.4561
	Female	89	4.7219	0.3979
<b>Reliability</b>	Male	55	4.8182	0.2963
	Female	89	4.7798	0.3581
<b>Responsiveness</b>	Male	55	4.7546	0.36796
	Female	88	4.7216	0.3799
<b>Assurance</b>	Male	55	4.8455	0.3209
	Female	89	4.8764	0.2642
<b>Empathy</b>	Male	55	4.4182	0.5420
	Female	89	4.4225	0.6123

Table 8: *Difference in average grades of expectations and perception regarding respondents' gender*

(Source: authors-compiled based on data analysis from the SPSS)

89 female respondents (61.80%) and 55 male respondents (38.20%) participated in the primary research. A t-test was used to establish if there were significant differences regarding gender and the results are displayed in Table 8. Based on the results of the analysis of the implemented t-test, it can be concluded that there are no statistically significant differences between female and male respondents regarding their expectations and final perception of the observed variables. Most respondents in the sample have middle school education, (87; 60.40%), and 57 respondents possess a university diploma.

Here, too, a t-test was implemented to establish whether there exist any differences in the average graded variables regarding the education of the respondents. The results show how it cannot be concluded whether there are statistically significant differences regarding the level of education of the respondents, since at all five dimensions, the difference between the evaluation made by those with middle school education and those with higher education is negligible.

#### 4. CONCLUSION

Quality is the backbone of successful business, especially in hotel industry, where product quality mostly depends on capabilities, physical appearance, courtesy, and behaviour of the employees. Hotels that strive at ensuring service quality and implement it in business policy can achieve significant competitive advantage. The results of the previous researches have shown that quality of the service influences consumer loyalty and attracting other clients. Companies that deal with sales i.e. placing the services on the market, have to consider four basic characteristics of the service (intangibility, variability, perishability and inseparability) to actually understand the multidimensional side of service quality and the complexity of its implementation. Because of great spatial distance between tourist supply and demand, from the very beginnings of tourism, systems for evaluation of hotel product have been developed. Namely, evaluation systems arise from the effort to facilitate assessment process for the potential service users before they are able to consume it, whether it is that created by the legislation, organizations or the very users. Therefore, hotels have to strive to provide the guests not only with tourist product and services, but with quality and satisfaction. Bearing in mind all this, the development of the model for measuring the quality of hotel service, one of them being the SERVQUAL Model, precedes the process of attracting and keeping the guests and so enables hotels to ensure a stable and long-term business. The main goal of this paper was to establish the level of user satisfaction with hotel service quality on the example of a family hotel on the Makarska Riviera. The findings show that the respondents i.e. the guest had great expectations from the hotel service in general because, for even 20 statements, the average grade was higher than 4, while the average grade of expectation was lower than 4 for only 2 statements. The SERVQUAL gap for each statement individually had a negative sign, which leads to conclusion that average perception of the received service was higher than the expectation hotel guests expressed. The biggest gap was in the “*empathy*” dimension and the smallest in “*tangibility*”. This suggests that hotel guests had lowest expectations regarding the perception of the physical appearance of the facilities, equipment, staff and promotional materials, and the highest expectations for attention and care for each guest individually. The guests that used the service of accommodation and half-board at Hotel Ivando showed satisfaction with the received service and their stay at the hotel i.e. average grade for the perception of the received service was better than general expectations that hotels guests had. This allows us to conclude that the hotel owner and manager possess a know-how in allocating human and financial resources.

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## THE SCALE OF INTERNAL FUNDING

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### **ABSTRACT**

*Internal financing refers to internally generated capital within a corporation. The most impressive source of internal capital is certainly the realized profit of the corporation, although depreciation should not be neglected either. The simplicity of the answer, however, overshadows, and even hides, the long and burdensome path to making a profit. In fact, profit is a feature that connects the internal financing of joint stock companies with banks, because for them, too, profitability is a determinant of the credit rating of individual joint stock companies. Thus, the scale of internal financing implies how much this form of financing of joint stock companies is theoretically respected by eminent experts and how much it is empirically accepted in practice. Regarding Croatian and world practice on internal financing, it will be presented in more detail in the following chapters. What is important is that scientific experts of Croatian and world rank such as Donaldson, Brealey, Myers, Marcus, Foley, Corbettica, Jenkinson, Orsag, Burke, DeMarz, Donaldson, Santini, etc. have registered internal funding, and in further scientific analyzes such as this is an attempt to attach more importance to this form of corporate financing.*

**Keywords:** *corporations, internal financing, USA, Japan, Canada, EU*

### **1. FINANCIAL CONSTRAINT AND INTERNAL FINANCING**

Although the importance of desirable investment options cannot be sufficiently emphasized, another set of financing options is also important, ie the number and type of sources of financial capital by which some of the desirable investment options will be realized. Since the number and type of sources of financial capital imply negotiating from which process the choice of source of financing should arise, it is clear that the set of options of sources of financing must be treated by an administrative structure with numerous and diverse substructures. It makes no sense to even specify them here, but it certainly makes sense, based on the theory of the hierarchy of funding sources, to ask: what is the position and impact of internal funding within the whole set of funding source options? The intuitive answer to the question posed is certainly affirmative. Here is a brief explanation. We have already mentioned negotiation, and it implies at least an assessment of what the negotiating position is between two parties: the management of a joint stock company, on the one hand, and the bank, to take the simplest example of an external source of financial capital, on the other. The quality of the management position of a joint stock company is most closely related to the amount, stability, reliability and durability of internally generated cash inflows and it is said: the more favorable the climate for internal financing, the corporate management will have a more favorable negotiating position, flexibility in loan repayment, some supplementary benefits, etc. Otherwise, the unfavorable atmosphere regarding internal financing will be felt by the management of the corporation through restraint of the other party, foreign bank relaxation which is not easy to achieve by the management of the corporation. different and heightened degree of discomfort. In technical terms, this can be said in this way: a higher degree of internal financing puts a lower financial limit on the management of the corporation and vice versa, and in this context we can talk about financially unlimited and financially limited joint stock companies. After past presentations, it is advisable to return again to the set of funding source options. Within this set, the role of individual sources of funding is not equal, nor is their significance the same. Due to its special nature of influencing the level of the corporation's financial constraint, internal financing must

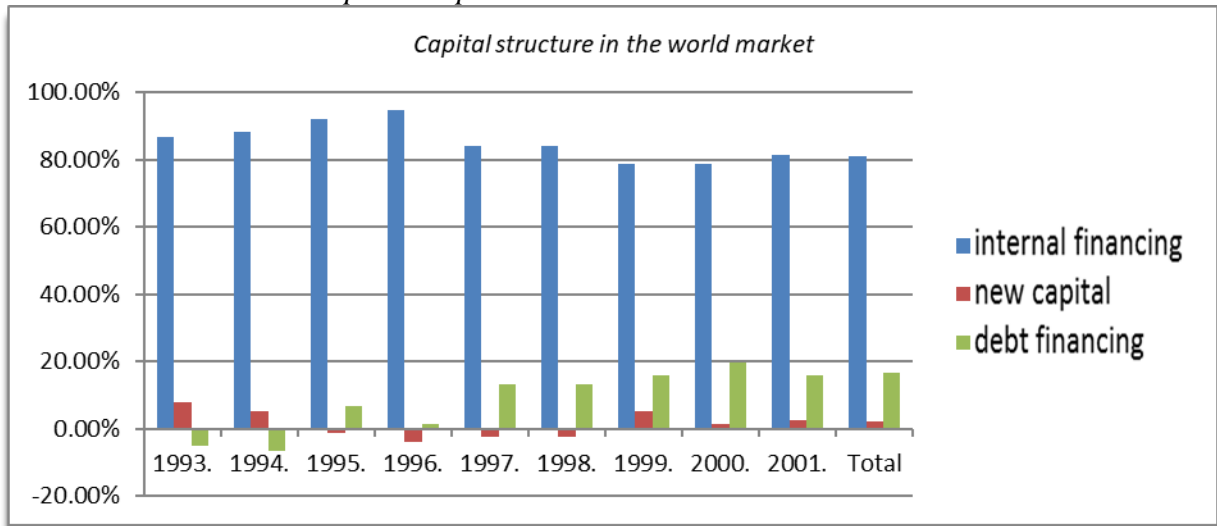
come to the fore and represent a point around which all other forms of financing will be connected. If this fact is ignored or forgotten, and this is primarily due to the impact of the 'flash' created under the impression of the expectation of huge positive profits, which is intensified by 'warm' reception by an external financier (bank), sooner or later the corporation's management he must agree to more and more concessions that push him more and more into the background. It is too late, in other words, but also painstaking, to listen to lessons in the negotiations on the fundamental principle of the statics of the financial pyramid, ie the crucial role and great importance of internal financing in building a stable corporate financing structure.

## **2. USE OF INTERNAL FINANCING IN OTHER DEVELOPED COUNTRIES**

Based on a more detailed explanation of the research problem, appropriate research hypotheses are set and explained. In current market processes, the process of forming large business entities that decide on investing and financing projects to permanently increase their own value are at the core of both the joint stock company and the overall economic development. Internally generated financial capital is defined as the sum of depreciation and retained earnings. Due to the availability of data and due to the basis of the research exclusively on joint stock companies, it is logical to take as a sample countries that have a developed capital market, ie the USA, Canada, Japan, Great Britain, France and Germany. Following the preliminary research, the first hypothesis of the dissertation emerged that internal financing in Croatian joint stock companies is used less than in developed European countries. After a more detailed study, it is important to note that all the more developed countries of the world have statistically recorded internal financing of non-financial joint stock companies, which greatly facilitates the work of researchers. This is not the case with us and the question arises of the need to monitor such a financial variable or ratio that might give some important warning signals for managers and owners as well as for investors and banks, and ultimately the state itself that should take care in Croatia. on this with regard to the shares in the ownership structures of larger joint stock companies which in turn are the bearers of the overall economic development. But not to lengthen, for a start, the structure of capital on the world market is shown through Graph 1. Linking the critiques to Pecking order theory, it can only be concluded that within the hierarchy of financial choices, the capital structure is only a consequence of the investment opportunities of the company and the decision of management for the preferred way of acquiring funds. Simply, the manager is guided exclusively from the position that is better for himself and then for the company, so that at any time, if we accept the fact that he as an insider knows more about society than other external entities, he can evaluate the best option. All other potential direct and indirect investors are deprived and never know for sure what they are investing in and what risks await them. There are no criticisms of Pecking order theory in terms of the hierarchy of financial choices, because this is clearly confirmed by the exact data, but the reasons given by the authors are different in many respects and too extensive to deal with them. The results shown by further research give the following results. One example is the graphs of Mediobance twenty years later. It shows the capital structure of 274 successful multinational joint stock companies that operated throughout the world market and covered all types of economy from 1993 to 2001.

*Graph following on the next page*

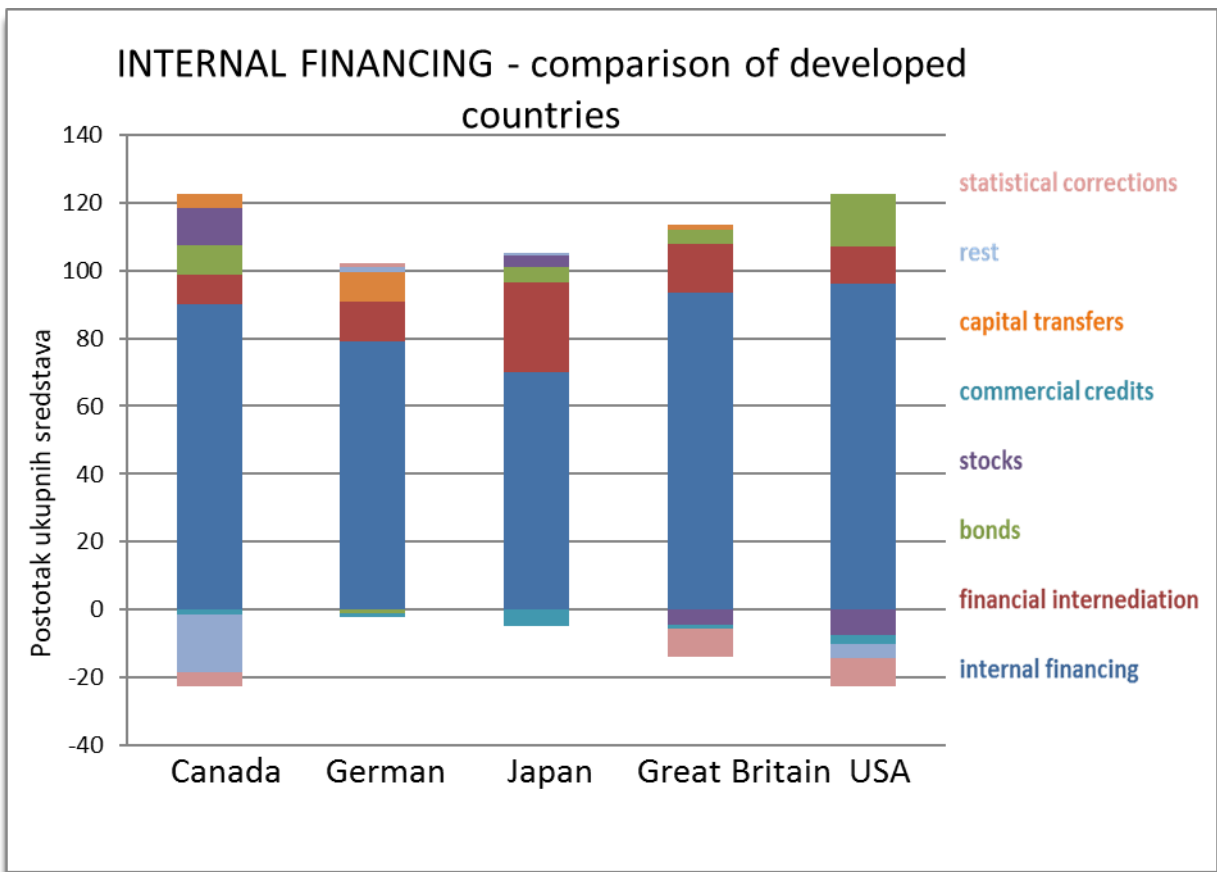
Graph 1: Capital structure in the World Market



Source: Vernimmen, P.: *Corporate finance*, John Wiley & Sons, 2006. p 678.

As can be seen in the graph, internal financing accounted for an average of 81.1% of capital, while debt financing accounted for 16.7% and sales of assets averaged only 2.2%.

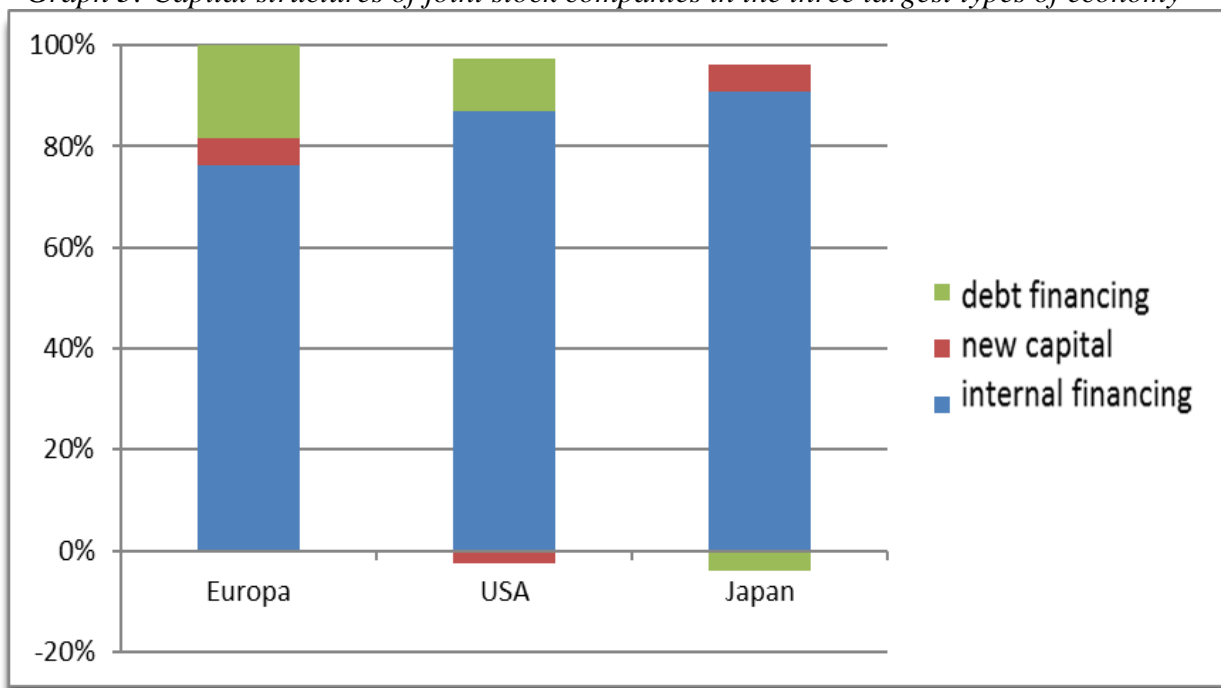
Graph 2: Comparison of developed countries in funding sources



Source: Corbett, J., Jenkinson, T.: *The Financing of Industry, 1970-1989: An International Comparison*, *Journal of the Japanese and International Economies* No. 10, p.71-96, 1996, article no.0004

Likewise, Pecking order theory gives similar results when viewed through the practice of behavior and management decisions of joint stock companies in all geopolitical areas. In the world, developed economies are divided into American, European (by which Germany is considered as a model because Great Britain still gravitates politically and economically to America) and Japan. All three have their advantages and disadvantages and are different especially when it comes to management<sup>1</sup>. Japan, on the one hand, prefers lifelong managers who have been with the company for a lifetime and are closely tied to it, while American corporations very often change management and they are more or less tied to certain strategic projects. Accordingly, a different financing strategy of these joint stock companies would be expected because it is not the same to subordinate the results to a period of 2 - 5 years as in America and Japan where the manager is observed for 30 years or more. When we look at the graph of the capital structure of joint stock companies in the three largest types of economy, the picture looks like this:

*Graph 3: Capital structures of joint stock companies in the three largest types of economy*



*Source: Vernimmen, P.: Corporate finance, John Wiley & Sons, 2006. p 678.*

All this and the data presented earlier, says that Pecking orders theory was quite accurate in its main hypothesis and that is how joint stock companies are financed and clearly in accordance with what capital structure they have, regardless of the fact that some of the other theories could increase the value of those same joint stock companies.

### **2.1. The degree of utilization of internal funding in the United States**

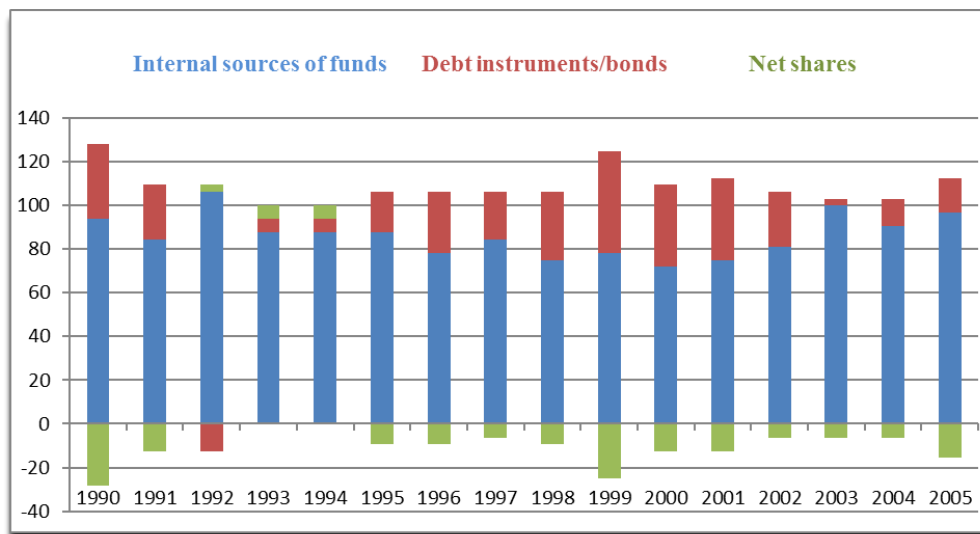
Myers<sup>2</sup> noted the importance of internally generated resources, defined as depreciation plus profit not paid as a dividend. Between 1989 and 2005, as shown in Graph 4, by which time Myers analyzed, internally generated cash covered nearly 90 percent of the required capital for U.S. joint stock companies.

<sup>1</sup> It is primarily viewed from the aspect of Principal - Agent of the problem

<sup>2</sup> Izvor: Bord of Governors of the Federal Reserve System, Division of Research and Statistics, „Flow of Funds Accounts“, Tablica F.102, Brealey R. A., Myers S. C., Marcus, A. J.: Osnove korporativnih financija, Mate d.o.o., Zagreb, 2007., str.364.



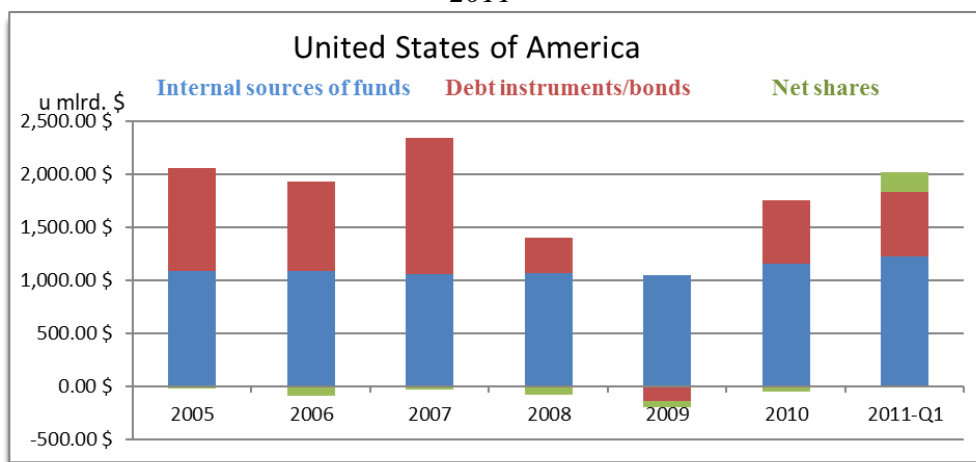
Graph 4: Ratio of funding sources for non-financial corporations in the United States from 1989 to 2005



Source: Board of Governors of the Federal Reserve System, Division of Research and Statistics, „Flow of Funds Accounts“, Table F.102.

This trend continued in the period from 2005 to 2011, which is shown in Graph 5, where the internal financing of non-financial joint stock companies averaged 1103.83 billion dollars. It can be seen from the Graph that net shares are shown in negative values because it is a higher ratio of purchased shares than placed, which is again an indicator of lack of development and innovation of joint stock companies on the basis of which the development of the company would grow. Analysts for joint stock companies in the United States believe that they rely too much on internal sources of funding, which reduces the responsibility of managers because they do not need to justify themselves to investors or banks<sup>3</sup>. This now justifies the fourth hypothesis that increasing the share of internal funding increases the level of managerial discretion, but the real confirmation of this hypothesis has been shown by empirical research for the purposes of the dissertation.

Graph 5: Sources of funding for non-financial corporations in the United States from 2005 to 2011



Source: Board of Governors of the Federal Reserve System, Division of Research and Statistics, „Flow of Funds Accounts“, Table F.102.

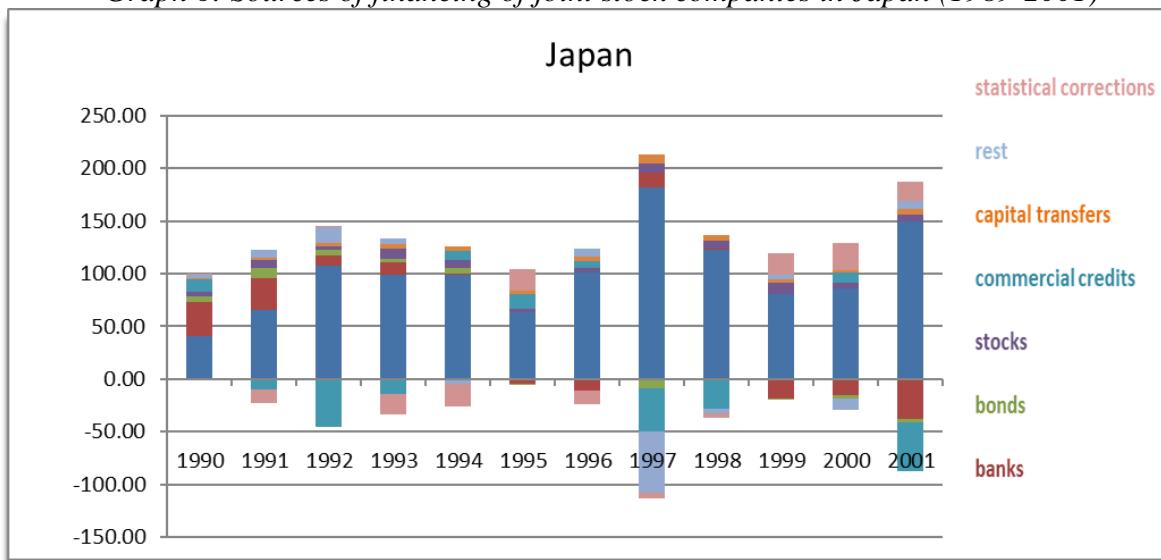
<sup>3</sup> Brealey R. A., Myers S. C., Marcus, A. J.: Osnove korporativnih financija, Mate d.o.o., Zagreb, 2007., str.364.

The framework of the study of internal financing in the USA, and then a comparative overview together with the countries of Great Britain, Japan, Germany, was given by Corbett and Jenkinson,<sup>4</sup> which are discussed in more detail in the following descriptions.

## 2.2. The degree of utilization of internal financing in Japan

Until the early 1990s, the Japanese financial system was based on core banking. The close link between banks and companies facilitates the use of credit and the efficient management of joint stock companies by management. Japan's balanced externally funded system has recently seen trends of increasing levels of internal financing. Building on previous research by Corbett and Jenkinson, the analysis continues based on the same parameters, but for the period from 1989 to 2001, where exactly these trends were observed in investment finance. However, further analysis shows that the changes that have taken place so far are more the product of economic and banking conditions in the period than a manifestation of a fundamental shift in the nature of investment financing in Japan.

*Graph 6: Sources of financing of joint stock companies in Japan (1989-2001)*



*Source: Cabinet Office of Japan, National Accounts -Suzuki, K., Cobham, D.: Recent trends in the sources of finance for Japanese firms: has Japan become a 'high internal finance' country?, No.0501, DISCUSSION PAPER SERIES, School of Economics and Finance, St. Salvator's College, St. Andrews, Fife KY16 9AL, Scotland, 2005.*

## 2.3. The degree of utilization of internal funding in Canada

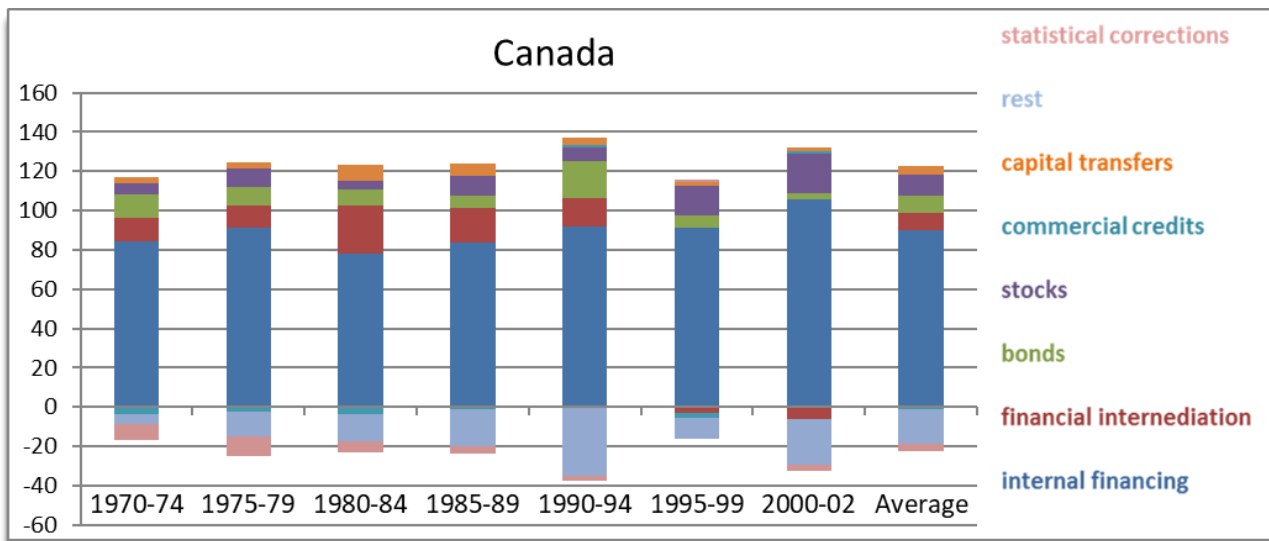
Again based on a study of the Corbett and Jenkinson framework, Canada was the next country to study the capital structure of joint stock companies and did so very successfully by the two Serletis and Pinno<sup>5</sup>. They studied data for the period up to 1989 and thereafter until 2002.

*Graph following on the next page*

<sup>4</sup> Corbett, J., Jenkinson, T.: The Financing of Industry, 1970-1989: An International Comparison, Journal of the Japanese and International Economies No. 10, p.71-96, 1996, article no.0004

<sup>5</sup> Serletis, A., Pinno, K.: Corporate Financing in Canada, Department of Economics, University of Calgary, Alberta, T2N 1N4, Canada, 2004., str. 16.

*Graph 7: Sources of financing for non-financial private joint stock companies in Canada for the period 1970-2002*



*Source: Sources of Canadian Aggregate Flow of Funds Dana - Non-Financial Private Corporations, Serletis, A., Pinno, K.: Corporate Financing in Canada, Department of Economics, University of Calgary, Alberta, T2N 1N4, Canada, 2004.*

Evidence is found to support the view that financial patterns in Canada are different from those in Germany, Japan and the United States and it is not so easy to classify Canada as solely based on bank financing nor based on capital market financing, or 'capital markets based.' However, there is a trend of smaller scales in financial intermediation, a slightly higher scale of use of shares and bonds, and an extremely high percentage of use of the degree of internal financing. There are also systematic differences in financial patterns between Canada and other countries studied in a comparative view (Germany, Japan, USA and UK).

## **2.4. Results of the analysis of the use of internal financing in some countries of the European Union**

### *2.4.1. Germany*

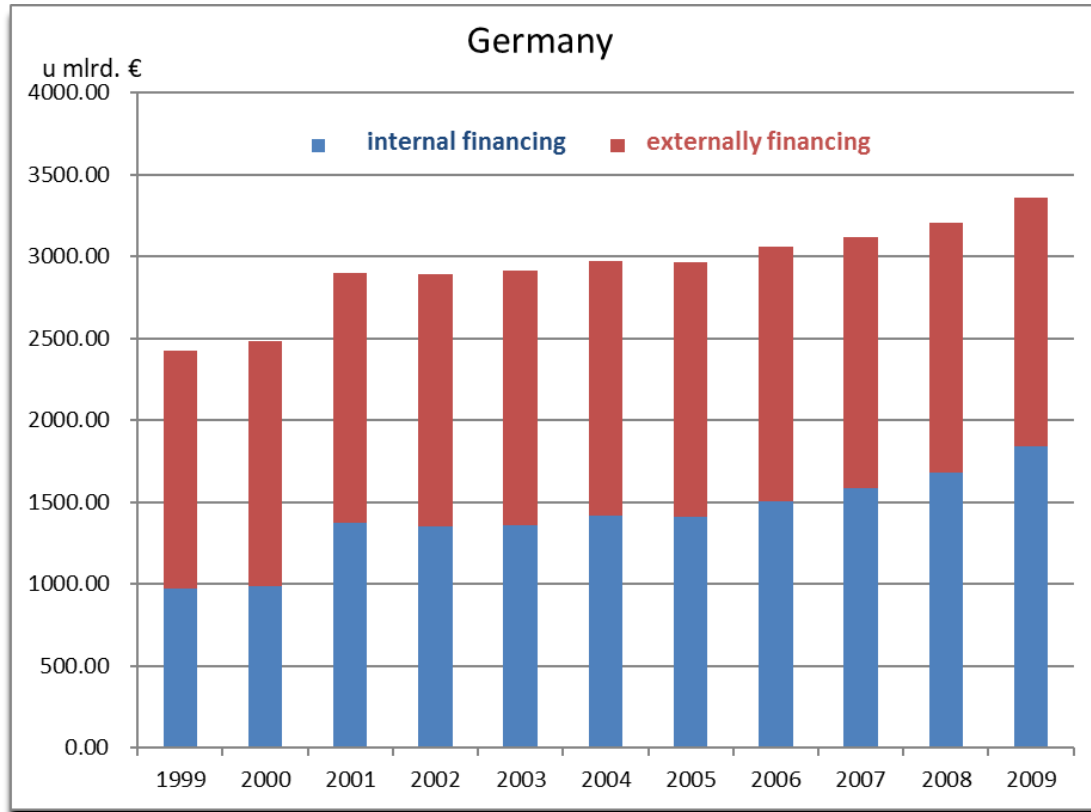
All studies of the German financial system claim that the low sensitivity of German non-financial joint stock companies to cash flow investments may be caused by the dominance of public or state-owned banks. The results of one study<sup>6</sup> look at a dynamic panel-data approach and show that the dependence of joint stock companies' investments in Germany on internal funds does not differ significantly between attached companies, savings banks, cooperative banks or commercial banks. Thus, the importance of the public banking sector in Germany cannot explain the relatively low dependence of companies on internal funds and public ownership of investors in this case of banks does not seem to have significantly reduced the financial constraint. Research on the investments of German joint stock companies<sup>7</sup> suggests that there is a gap between the costs of external and internal financing and thus, the Modigliani-Miller theorem in this case does not prove its postulates. Through the statistics published in 2010 on the financial accounts of non-financial joint stock companies in Germany, the level of external and internal financing for the period from 1999 to 2009 was recorded.

<sup>6</sup> Engel, D., Middendorf, T.: Investment, Internal Funds and Public Banking in Germany, Ruhr Economics Papers, Essen, 2007. str. 4.

<sup>7</sup> Engel, D., Middendorf, T.: Investment, Internal Funds and Public Banking in Germany, Ruhr Economics Papers, Essen, 2007. str. 12.

The amount for individual years of financing in the form of issuing shares and bonds, and capital transactions is also shown, but for the purposes of the dissertation the most important was to calculate the ratio of the amounts of internal and external borrowing of joint stock companies in Germany.

*Graph 8: Financial accounts of non-financial corporations in Germany for the period 1999-2009*



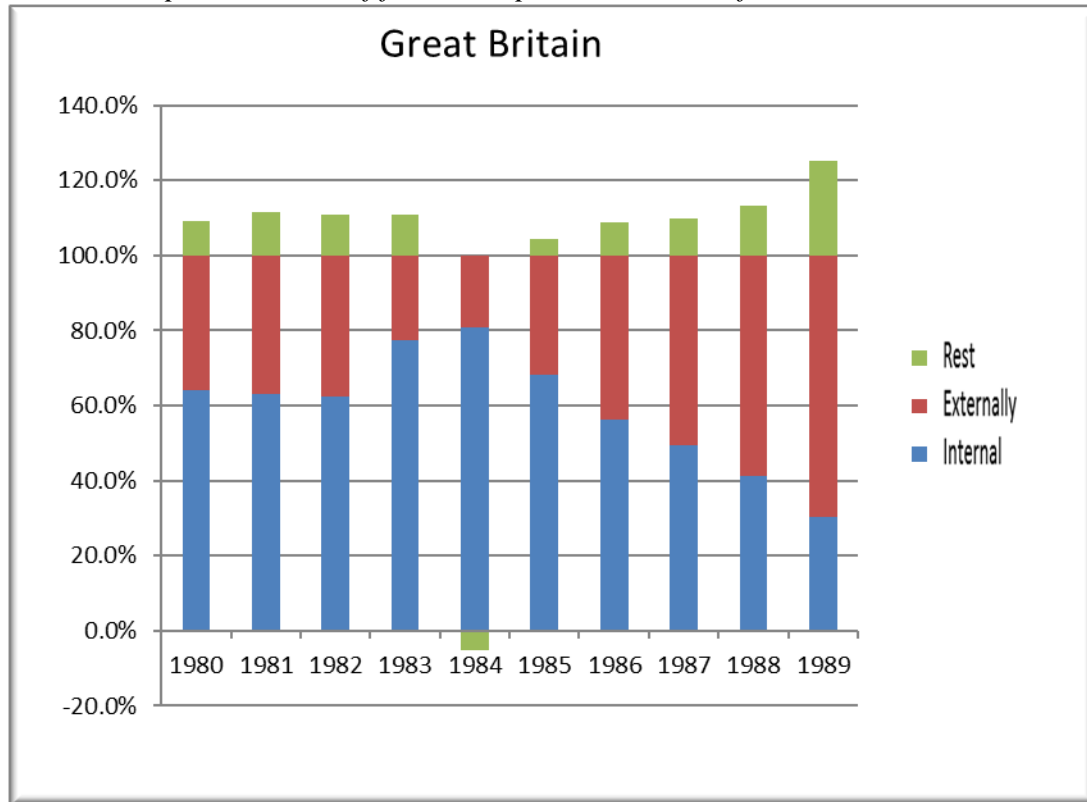
*Source: DEUTSCHEBUNDESBANK, E U R O S Y S T E M - Financial accounts (1991 to 2009) Deutsche Bundesbank, Frankfurt am Main, 2010., str. 22.*

Furthermore, cross-country studies clearly indicate that German or Japanese joint stock companies show lower cash flow investment rates than Anglo-Saxon firms (Harhoff, 1998; Bond et al. 1999, 2003; Hall et al. 1999). This seems to be mediated by the financial systems of Japan and Germany, which are characterized by a better prominence of financial channels to joint stock companies than the Anglo-Saxon market system based on business services.

#### 2.4.2. Great Britain

Despite the media's attention to stock market activities, the issue of securities for the purpose of raising capital in the UK is not the most important way in which a company is financed, as shown in the following Graph. The table shows the relative importance of different sources of corporate financing in the UK over the decade shown.

*Graph following on the next page*

*Graph 9: Sources of funds-companies in the UK from 1980 to 1989*

Source: adapted to *Financial Statistics – Great Britain, No.339, July 1990*.<sup>8</sup>

Foley<sup>9</sup> concludes that it is difficult to say according to this Graph which priorities in corporate financing in the UK they prefer looking at it on the one hand as demand, and a possible alternative to internal sources in the form of banks. There is certainly a view, he further argues, that small proportions of long-term bank financing in the UK maintain a tendency for banks to limit themselves to short-term lending as long as it concerns the corporate sector, as opposed to German and Japanese banks that have traditionally lent for much longer periods.<sup>10</sup>

#### 2.4.3. France

Joint stock companies in France can find their strongholds in the past in spinning mills. In his book on corporate finance, published in English and French, Vernimmen gave an overview of theories of capital structure and focused on Pecking - order theory. He wondered if there was an optimal capital structure that was acceptable forever. Namely, no capital structure is immune to change over time. In the 50s and 60s, the one with low indebtedness was accepted as a good capital structure. Furthermore, in the 70s of the last century, a normal level of debt was implied because it automatically meant emphasizing investment. The rebalance of the capital structure was necessary in companies in the 1980s, where most investments were made in internally generated funds. At the end of the century, until today, the issue of borrowing is no longer left as an option but as an obligation and thus the forms of external borrowing are gaining in importance.

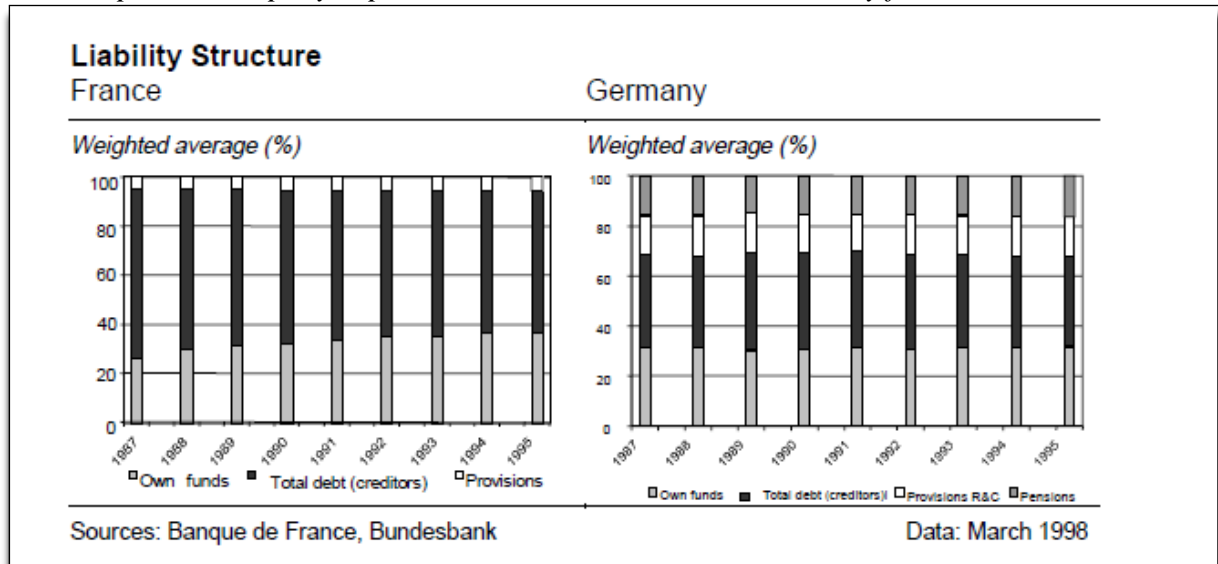
<sup>8</sup> Source: adapted from *Financial Statistics, No.339, July 1990* in the book Foley, B., J. : *Capital Markets, Mate, Zagreb, 1993, p. 7.*

<sup>9</sup> Foley, B.,J.: *Tržišta kapitala, Mate, Zagreb, 1993., str. 8.*

<sup>10</sup> Harris L. et al.: *New Perspectives on the Financial System, Croom Helm, London vidjeti u knjizi Foley, B.,J.: Tržišta kapitala, Mate, Zagre, 1993., str. 8.*

But the euphoric climate of real growth and low inflation has resulted in a new millennium of economic crisis on a scale that no one could have foreseen. Consequently, joint stock companies have been put in a difficult position, which results in the need to rebalance their capital structures, and thus, as a domino effect, to rebalance world economies. The following Graph provides a comparative overview of the reliability of the capital structure of non-financial joint stock companies in France and Germany.

Graph 10: Company capital structures in France and Germany from 1987 to 1995.



Source: Banque de France, Bundesbank, *Corporate Finance in Germany and France. A Joint Research Project of the Deutsche Bundesbank and the Banque de France*, autori: Hans Friderichs (Deutsche Bundesbank), Dieter Gerdesmeier (European Central Bank - ECB), Elisabeth Kremp (Secretariat d'Etat a l'Industrie; National Bureau of Economic Research - NBER), Bernard Paranque (Euromed Management – Marseille), Annie Sauve (Banque de France), Manfred Scheuer (Deutsche Bundesbank), Elmar Stoess (Deutsche Bundesbank)

A smaller share of the use of own funds was noticed in Germany, in contrast to France, which is a result of the ownership structure of banks in Germany, as already mentioned, which are state-owned. On the other hand, there is a noticeable increase in indebtedness of French companies in the period from 1987 to 1995. It was very difficult to find data on internal financing in French companies or joint stock companies, so these are the closest data that have been available and conducted in previous research, but certainly not neglecting the scientific contribution of Pierre Vernimmen in the field of corporate finance.

### 3. CONCLUSION

The European Commission cites dependence on external financing as the cause of economic stagnation in recent years in the Republic of Croatia, and delaying fiscal consolidation could jeopardize investment and consumption due to higher borrowing costs. Furthermore, the historical development of joint stock companies, owned by many shareholders, has shown that the emergence of a joint stock company is a key innovation of the capitalist system. From the end of the 19th and the beginning of the 20th century, although with varying intensity in certain highly economically developed countries, they developed into decisive and decisive actors in developed national economies. It seems that this cruciality will not be lost even in the era of globalization, so it will have an equal, if not greater, role in acting within the global economy.

The special specificity of a joint stock company is reflected in the fact that a significant number of them have developed internal coordination mechanisms, among which the conceptual internal financing is again structurally emerging. Internally generated financial capital is defined as the sum of depreciation and retained earnings. Due to the availability of data and the basis of research exclusively on joint stock companies that are not from the financial sector, it is logical to take as a sample countries that have developed capital markets, ie the United Kingdom, USA, France, Germany and Japan. It is interesting to compare the share of internal financing in Germany because there banks that are predominantly state-owned traditionally lend to industries for a longer period of time. It was noticed that Japan also has lower internal financing than other countries because the banks in that country are mostly state-owned. Evidence is found to support the view that financial patterns in Canada are different from those in Germany, Japan and the United States and it is not so easy to classify Canada as solely based on bank financing nor based on capital market financing. Analysts for joint stock companies in the United States believe that they rely too much on internal sources of funding, which reduces the responsibility of managers because they do not need to justify themselves to investors. It can be concluded that the level of internal financing in developed countries is extremely high, which provides greater freedom of managerial decision-making and greater investment scope, while on the other hand, the lack of justification for banks often results in failed investments. The consequences, however, are positive in the long run, which we see in the development of these economies.

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