

Varazdin Development and Entrepreneurship Agency and University North  
in cooperation with  
Faculty of Management University of Warsaw  
Faculty of Law, Economics and Social Sciences Sale - Mohammed V University in Rabat  
Polytechnic of Medimurje in Cakovec  
Association of Economic Universities of South and Eastern Europe and the Black Sea Region



# Economic and Social Development

53<sup>rd</sup> International Scientific Conference on Economic and Social Development

## Book of Proceedings

Editors:

Igor Klopota, Katalin Czako, Victor Beker



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## **Economic and Social Development**

53<sup>rd</sup> International Scientific Conference on Economic and Social Development

### **Book of Proceedings**

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## DEVELOPMENT OF A CASE-BASED APPROACH TO THE DIGITAL SUPPORT OF REGULAR ACTIVITIES TAKING INTO INTERNATIONAL EXPERIENCE

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### ABSTRACT

*The economic activities of enterprises, institutions, societies and other associations of the Russian Federation are thoroughly registered in the Russian National Classifier of Types of Economic Activity (OKVED-2019), comprising 21 sections (activity field), 88 classes and more than 160 thousand specific activities. Being repeatedly reproduced, a lot of these types are regular and implemented within the territory of the Novosibirsk region. Efficient information/digital (IT) support of key economic activities tends to be a top priority for creating the region's digital economy. However, this support has not been not sufficiently developed, rarely if ever.*

**Keywords:** *Case-based approach, CBR-decision-making cycle, Decision making process, Decision support system, Regular activities*

### 1. INTRODUCTION

Existing IT-support tools for enterprises are application -specific and often aimed at collecting, transmitting, primary processing and displaying data, as well as the making accounting electronic documents. Decision makers (DM), managers of various positions are entitled to take administrative decisions. Decision Support Systems (DSS) have also been poorly developed and tend to be efficient only in case of simple activities. Current decision-making approaches are often based on plausible reasoning, including decision-making based on induction, abduction, argumentation, analogy, and cases. The implementation of these approaches facilitates developing a variety of intelligent decision support systems. The case-based approach (Case-based reasoning, CBR) based on previously gathered experience in solving similar problems is one of the well-known approaches to solving problems related to decision support. The following basic concepts are used in the article:

- Activity - a focused process of creating (acquiring) and applying specialized technologies in a specific subject area;
- Subject area - a part of the real or virtual world for an individual (or many people) to carry out his/her activity;

- Activity system (AS) – a system of activity management;
- Technology - knowledge of “what and how to do” and its informational and material implementation in a specific subject area (in AS, technology is considered as an object of activity).

## **2. INTERNATIONAL EXPERIENCE OF DEVELOPING A CASE-BASED APPROACH**

A case-based approach is the process of handling a new task (solving a problem) by reusing and adjusting (if necessary) solutions to similar problems obtained before. The substance of the case-based approach is to apply gathered experience of the problem solving when developing solutions to new problems. This approach is based on decision making by analogy [2, 3, 4]. Cases, as a rule, are structured presentation of gathered experience by data and knowledge, providing their subsequent automated processing using specialized software systems [1] and encompass the problem situation description and a set of actions taken to eliminate this problem situation (its solution) [2]. The following foreign and domestic researchers as R.C. Schank, R.P. Abelson, A.Aamodt., E. Plaza, J Kolodner, A.F. Berman, O.A. Nikolaychuk, A.I. Pavlov, A.Yu. Yurin, D.F. Luger, G.S. Osipov, P.R. Varshavsky, A.P. Ereemeev and other carried out the research in the terms of the development of a case-based approach, the development of new ways of presenting as cases, and also suggested new mechanisms and methods to implement particular phases. Here are the main features of the cases [5]:

- Case represents specific knowledge that is contextual, enabling the use of knowledge at the application level;
- Cases can take various forms (types): covering different time intervals; linking solutions to problem descriptions; results to situations, etc.;
- Case includes only that experience that can train (be useful), fixed cases can potentially help a specialist (DM) achieve the goal, facilitate its formulating in the future or warn him/her of a possible failure or unforeseen problem.

The development of the case-based approach is related to the creating new ways of presenting knowledge as cases, offering new mechanisms (methods) to implement particular stages:

- Algorithms that increase the efficiency of calculating the similarity (proximity) assessment [6], [7];
- Transformational adjustment [4];
- Combined application of cases with transformational or generative adjustment [8];
- Case presenting as vectors, methods of search (extraction) and cases reuse[1];
- Implementing of mechanisms to create a base of design decisions built on a case-based approach, including the functioning of a case-based DSS and analysis of the main methods for assessing the degree of data interconnection in a case-storage [9];
- Building a distributed output system based on cases for intelligent systems [10];
- Application of group selection methods (voting procedures) found in analogous case for solution adjustment[4].

## **3. SAMPLE AND MODIFIED DECISION-MAKING WITHIN THE CASE-BASED APPROACH**

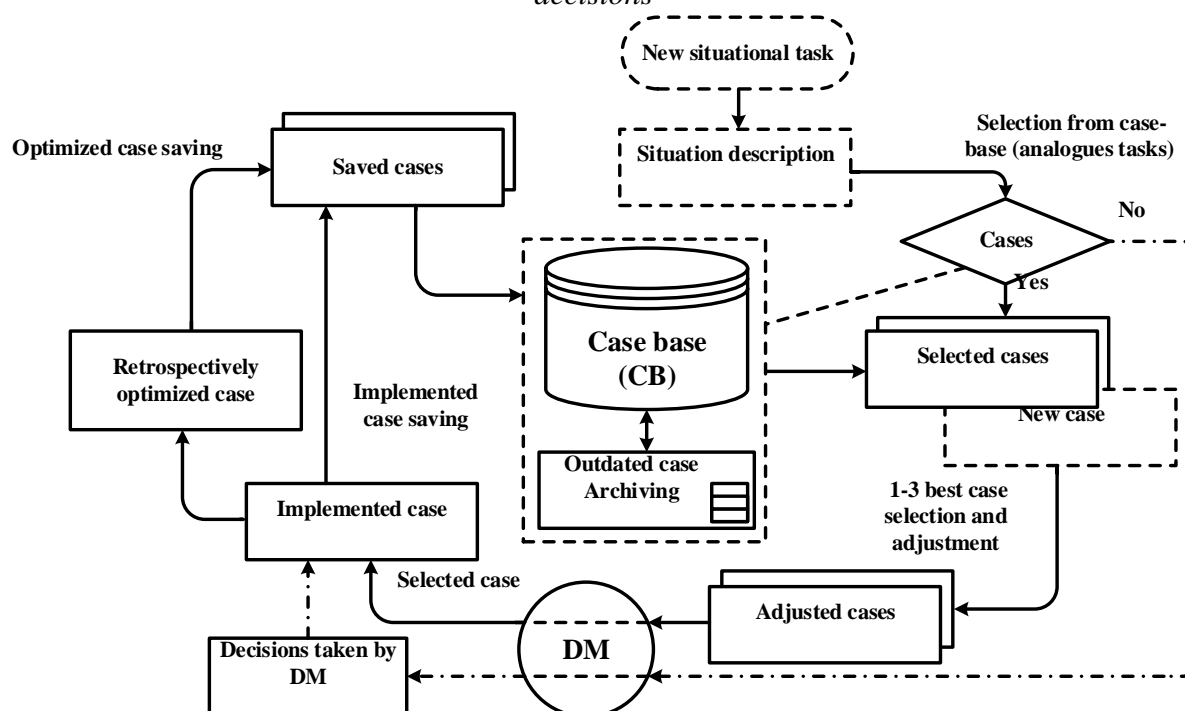
The basic components of the activity are the goals and objectives of it, technologies, as well as actions and results of the activity [11]. We suggest using the case method to manage complex activities in any subject area efficiently. A typical CBR cycle of decision-making related to the implementation of activities is presented in [12, 13].

This cycle includes four basic operations to solve the task of implementing activities in a particular situation:

- Case extraction (from the library of previously implemented solutions in similar situations) similar to that (new) situation;
- The best case reuse;
- Review (analysis) and correction of the case (if necessary);
- Saving the decision taken in the case library.

Figure 1 shows the CBR-cycle improved by the authors to develop and make decisions related to the implementation of a certain type of activity (of a particular activity technology).

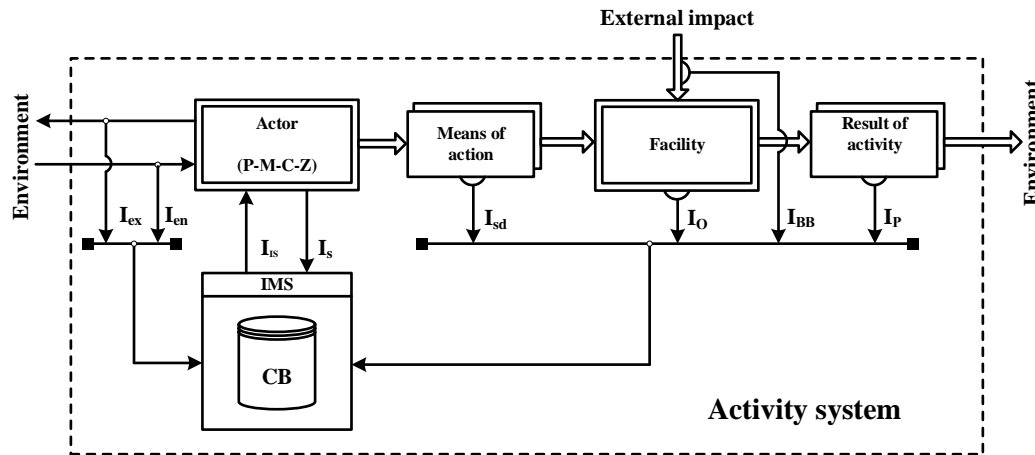
*Figure 1: The Modified CBR-cycle of development and implementation of management decisions*



It differs from sample CBR-cycle by obviously taking into consideration participation of the DM in the process of solving situation task of implementing the activity in the new way of transforming the actually implemented task solution and during regular updating the case base by deleting the irrelevant cases. Moreover, unknown case situation should be taken into account. The regular activity system of a person (many people) is shown in figure 2. It demonstrates the subject of activity (with its needs-n, motives-m, objectives-o and tasks-t), an object of activity (technology) and also an information management system (IMS) , within which the base of decisions made and case situations is created, maintained, and updated.

*Figure following on the next page*

Figure 2: Precedents as a component of the regular activity system



The symbols in the fig. 2 mean the following: CB – case base; IMS - information management system; N- needs; M - motives; O – objectives ; T - tasks; IEN, IEX - input and output information; IIS - data for the subject; IS - data for IMS; ISD - data on means and actions; IO - data on the state of the facility; I - data on external impact on AO (activity object); IP - data on the results. Figure 2 shows that the most important component of activity system of a regular type is the case base (CB) of activity providing a quick access to it by the actor.

#### 4. APPLICATION EXAMPLES OF A CASE METHOD TO IMPROVE STEEL melting TECHNOLOGY

The first example is arranged according to a well-known logical scheme “as it is – as it will be (as it should be)”, figure 3 and figure 4. It compares the well-known approach, used by the company "TSIFRA" (Moscow) in particular and proposed by the authors case-based approach to quality management of steel production in arch furnaces.

Figure 3: Production efficiency (As it is)

1. As it is:

Example: «TSIFRA» (Moscow)

\* «Industrial enterprises store data terabytes»

\*\* «We increase production efficiency!»

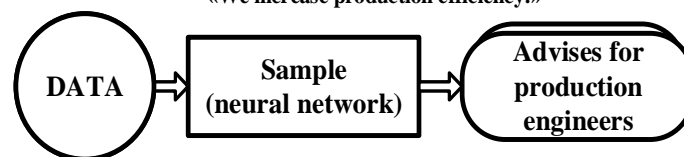
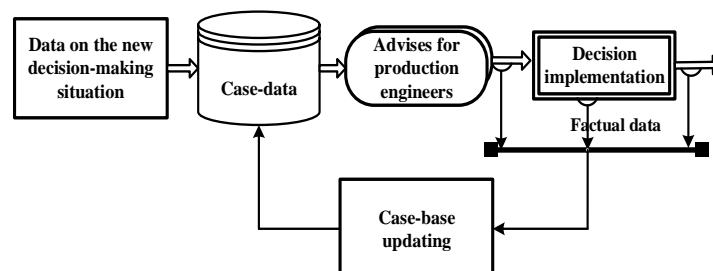


Figure 4: Digital transformation of production

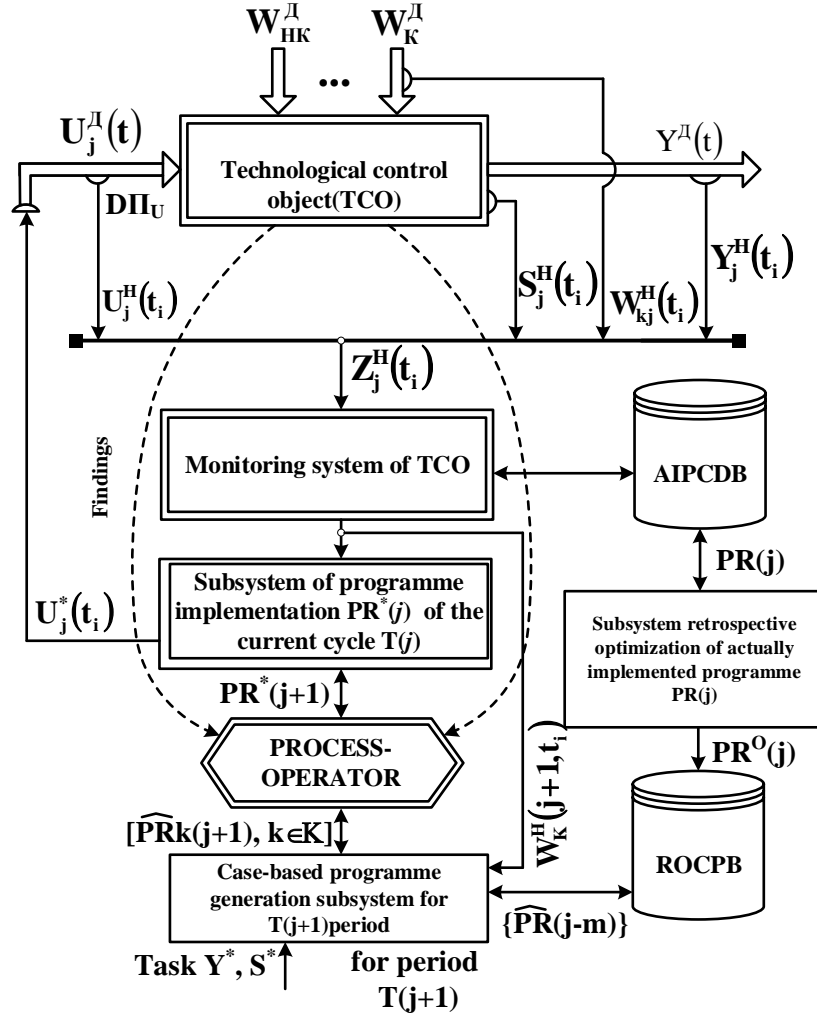
2. As it should be:

\* Case-based process control technology



Next figure 5 shows a functional diagram of the process control system that takes place in a complex cycle-operation production facility, for example, the process of steel melting in an oxygen converter. This diagram differs significantly from traditional systems of this purpose. It does not contain the full mathematical model of the control unit (OU) that is usually created for such facilities. Instead of a mathematical model using a case database (AIPCDB) and the base of the retrospectively optimized control programs (BROCP).

Figure 5: The functional structure of the case-based control system of a complex cycle-operation technological facility



The symbols in the figure 5 mean the following:

- $Y_j^A(t), U_j^A(t), W_K^A(t)_j, W_{HK}^A(t)_j$  – factual output impact of auto service facility on the environment within j- technological cycle at the t time, the actual controlling impact on auto service facility, actual controlled external impact on auto service facility, actual uncontrolled external impact on the auto service facility, respectively;
- $Y_j^H(t_i), U_j^H(t_i), W_K^H(t_i)_j, S_j^H(t_i)$  is the vector of full-scale measuring signals (data) of the output impact of the object related to the j technological cycle and the discrete time t i., the signals vector of the full-scale controlling impact on the facility, the vector of the full-scale signals on controlled external impact (disturbances), the vector of the full-scale signals characterizing state of the facility in the j cycle at time t i;
- $Z_j^H(t_i)$ —generalized vector of full-scale signals received from transducer sensors  $D\Pi_U, D\Pi_S, D\Pi_Y, D\Pi_W$ ;



- $PR(j), PR^o(j)$  – the actually implemented and optimized program of the object's operation during the period  $T_j$ , respectively;
- $PR^*(j+1)$  – set operation programme for the period  $T(j+1)$ ;
- $\{\widehat{PR}(j-m)\}$  – ROCPB programme of  $T(j), T(j-1), \dots, T(j-m)$  periods};
- AIPCB-actually implemented production cycle base;
- ROCPB- retrospective optimal control programme base.

## 5. CONCLUSION

Presently, various methods have been developed to implement a case-based approach. However, the issue of developing new methods to increase the efficiency of re-employing case-based approach remains topical. The authors of the article researched a typical decision-making process based on cases and proposed a modified CBR-cycle to develop and take decisions related to implementation of a certain type of activity, as well as examples to apply a case-based approach to improve steel-melting technology. Essence and distinction of the proposed updated CBR-cycle from the sample process and also scientific topicality of the study is as follows: taking into account DM participation, new method to adjust implemented problem solution and regular updating of a case base by deleting outdated cases, and also taking into account unknown case situation. Presently, case-based decision-making systems are being developed and investigated in various fields of activity, in particular: medical care (SB RAS) [3], disaster management [4, 14], project to create complex industries [15], logistics [16], IT [17] and others. The results obtained in these areas have shown the viability of the case-based approach for the digital support of complex human activities. The development of case-based control systems for difficult to formalize technological processes has gained a particular topicality.

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## RESEARCH OF TOURIST MOTIVATIONS AND ACTIVITIES IN CONTINENTAL TOURISM DESTINATIONS

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### **ABSTRACT**

*Tourism is marked by constant changes in tourist demand trends and the development of new travel motives. Tourists are no longer satisfied with a uniform tourist offer or exclusively with a quality accommodation. What they are looking for is an experience while quality accommodation and services are implied. In accordance with the tourist market trends, the paper analyzes the changes in the tourist arrival motives and the total activity of tourists at the tourist destinations. Even though Croatian coast currently stands out as the most developed tourist part of the Republic of Croatia, there are other locations that have great tourist potential with their rich cultural and historical heritage, the beauty of nature and many tourist activities. Small family hotels, various ethno, religious and other events, equestrian and bicycle paths, hunting tourism, cultural and historical heritage, etc. contribute to the tourist traffic in the continental part of the country. For the purposes of this paper, in order to point out the importance of the development of continental tourism through its recognizability and preferences of the target market segment, a survey was conducted among the population of the city of Zagreb. The survey examined the tourists' opinion on their visits to the surrounding continental destinations and on the activities they engaged in the area. The survey gathered 253 correctly completed survey questionnaires. What is of the greatest importance for understanding and assessing the state of tourism development for each destination is conducting qualitative research of the attitudes of groups that, in constant interaction, form an indivisible whole of the tourism process as an interaction of motives, interests and benefits of the development results. The conducted research provides a good illustration of the topic and a reliable basis for further research, as well as a solid starting point for the development of the final models of continental tourist destinations offer which will expand the tourist offer and initiate the demand for 365 business days.*

**Keywords:** *Continental Tourism, Excursionists, Seasonality, Tourist Destination, Tourists*

### **1. INTRODUCTION**

The world tourism market went through significant changes in the past twenty years. First of all, the emergence of new tourist destinations, as well as new specific forms of tourism, along with continuous tourism growth expressed qualitatively and quantitatively, have granted tourism the epithet of the most propulsive economic activity. The fundamental characteristics of today's tourism are travelling faster, cheaper and easier, offering increasing quality, as well as offering a variety of services. The offer of tourist programs has increased incredibly and the struggle for each guest on the tourist market is greater than ever. In addition to the price and quality, the most important is the content of the tourist offer at a destination. Originality, the tendency toward a healthy lifestyle as well as the abundance of natural and cultural resources based on sustainable and socially responsible development are certainly the key segments for creating competitive advantages of a tourist destination. Global tourism trends have been influenced by the generation of post-industrial society through a strong process of changing the needs and habits related to accommodation, food, drink, entertainment, amusement, transportation, etc.

The following trends in tourism are particularly significant:

- A general increase in health awareness and related topics such as healthy diet, healthy lifestyle, recreation, etc.;
- The growing importance of destinations that pay attention to sustainable development;
- The use of new technologies and increasing life standards; the increased demand for ecologically preserved destinations in terms of going back to the primitive life;
- The trend of more frequent but shorter trips;
- The trend of travelling to destinations accessible by car;
- The increase in the demand for all inclusive arrangements.

Analyzing the motives of tourist arrivals, it is noticeable that passive vacation still remains the main motive for tourist arrivals, but with a decreasing tendency, which confirms the fact that tourists no longer come only for the sun, sea, beaches or natural beauties but for the tourist offer enriched with different activities like new experiences and adventures, getting to know the lifestyle of the local population, enjoying food (gastronomy) whereby it is very important that the tourists get "value for money". If the total activity of tourists at a tourist destination is analyzed, tourists are mainly engaged in nature walks, trips to the national parks, organization of independent field trips or they simply relax, which means that they use easily accessible natural resources which may be a reflection of their needs but also a reflection of an insufficient tourist offer regarding other tourist products.

## **2. CHARACTERISTICS OF THE CONTINENTAL TOURIST DESTINATIONS OF THE REPUBLIC OF CROATIA**

In terms of the area where the tourist traffic is realized, continental tourism takes place in cities, spas, lake and river shores. The term is the opposite of the term coastal tourism, and unites all types of tourism that are realized in the inland (the continental part) of a particular country (Galičić 2014:840). Given that coastal tourism had the advantage over continental tourism in the past and will continue to have the advantage in the near future also, these two forms of tourism should be viewed as related, complementary forms of tourism where the coastal tourism contributes to the development of continental tourism. The prospects of continental tourism for the future arise from the diverse natural, cultural, historical and other resources, as well as from already created receptive capacities, due to its transport connections with Europe and the world by land, rail, air and navigation routes. Tourists' demand for continental tourist offer of the Republic of Croatia will depend on the attractiveness and competitiveness of the tourist offer in this region. The basis of this development might be comprised of special interest tourism types that can be evaluated in more detail through integrated tourist offer (Bartoluci, Hendija, Petračić 2015:216). The prospects of continental tourism should be viewed not only from the aspect of those types of tourism which have already established themselves on the tourism market, but also from the aspect of their quantitative and qualitative improvement. Continental tourism can be realized as excursion, residential and transit tourism (Franić 1993:27). Excursion tourism refers to the organization of excursions (shorter one-day tourists' stays) to continental tourist destinations. In this way, coastal tourism could contribute to the development of continental tourism. The contents of the excursion program can be various: gastronomic tourism, events, performances, cultural tourism, mountaineering tourism, etc. Regarding the continental residential tourism, there are numerous products and motives because of which tourists come and can stay exclusively in the continental part of Croatia. Products such as health, congress, religious, cultural, rural, mountain, hunting, fishing, excursion, transit, incentive and sports tourism can attract a large number of interested visitors. In all destinations of the Continental Croatia, it is possible to form an interesting tourist product based on the existing offer and the new offer, new programs.

Transit tourism, being the tourists' travel to another destination, could result in tourists staying on the continent for a shorter or longer period of time. This can be done systematically with a variety of possible activities and different tourist products. Continental tourism can significantly contribute to the development of the economy; moreover, the development of continental tourism, in addition to the economic, contributes to the other, not less important, improvements of the rural community and the quality of life for the local population of the whole region. The role of certain forms of tourism, given their attractiveness and competitiveness for the macro-region of the Continental Croatia is shown by the portfolio matrix where the product of cultural tourism stands as the most competitive and attractive tourist product on the continent. A holiday in rural areas is very highly attractive and moderately competitive, as well as cyclotourism and other forms of outdoor activities. The characteristics of some tourist products of this macro-region are presented hereafter.

### **2.1. Eno-gastro tourism**

Eno-gastro tourism is a form of tourism that is highly attractive in the Continental Croatia, but which is still not very competitive. Wine, food and tourism are closely related. The role of wine and food in attracting the tourists to the destination has been recognized by researchers, the wine, food and tourism industry. Tourism with a note of gastronomy and wine roads refers to the trips of tourists whose motivation is getting to know the gastronomy, indigenous food and wine of the local population. Enotourism can be defined as visiting the vineyards, wineries, wine festivals and events where the primary motivating factors are wine tasting and experience. It is based on the special wine-related interests, while tourists can be motivated either by the destination (wine region) or the activity (wine tasting) (Franić 1993:27). The importance of developing this product in Croatia is based on the rich gastro-enological tradition, a growing number of hospitality facilities with an excellent offer of local gastronomy and enology. New investments are planned in the form of building hospitality facilities whose construction will be compatible with the traditional features of local architecture. Emphasis is placed on encouraging excellence in gastronomy, as well as on connecting the local agricultural producers with the hospitality sector, branding national and regional gastronomic offerings, and establishing an advisory service for ambient landscaping at the regional level. According to the Tourism Development Strategy, one of the more interesting activities for this form of tourism is the thematization of regions in order to take advantage of each regions' eno-gastronomic offer because it is considered that in this way this tourism product would become recognizable.

### **2.2. Rural tourism**

Rural tourism is the tourism that takes place in the countryside (Sharpley and Sharpley 1997). However, such definition does not reveal what this form of tourism actually offers, so different authors, each in its own way, have attempted to explain it in more detail to those who were not and/or are its potential users. Particularly big differences in conceptualising rural tourism are to be found between highly developed countries and those which are at the onset of their economical development (Nair 2015:318). According to the Council of Europe, it is the tourism in a rural area with all the activities carried out in that area along with harmonious surroundings, absence of noise, preserved environment, communication with hosts, local food as well as getting familiar with and even participating in the rural affairs (Geić 2011:368). According to the World Tourism Organization UNWTO, the United Nations agency, there are four key elements that determine rural tourism—these are: natural resources (rivers, lakes, mountains, forests, etc.), rural way of life (businesses, local events, gastronomy, traditional music, etc.), rural heritage (traditional architecture, history, castles, churches, villages, etc.) and rural activities (horseback riding, hunting, fishing, walking, biking, water sports and the whole series of outdoor activities) (UNWTO, 2004).

Rural tourism or ethno-tourism is also called green, farming and agritourism and implies the occasional stay of tourists in a rural environment which, in addition to clean air and natural surroundings, offers visitors various opportunities to actively participate in the life and work of the homestead including the participation in festivities. In his book on rural tourism, the author Ružić points out a variety of its aspects: rural (agritourism), residential, native, sports and recreational, adventure, health, educational, transit, camping, nautical continental, cultural, religious, hunting, fishing, wine, gastronomic, natural close, ecotourism, and others (Ružić 2005: 28). The tourist demand in the segment of rural tourism is extremely heterogeneous in terms of the needs, expectations and activities, and it can be assessed as constantly growing. In general, there is a growing interest in the world for naturally and culturally populated rural environments. The so-called trend of "healthy lifestyle" and peoples' growing care for their physical and mental health, with the exceptional growth of the clothing and leisure equipment industry, encourage the choice of rural destinations as the ultimate travel destination even more. Of course, the tourist demand heterogeneity implies significant individual differences among potential tourists. The following factors can be highlighted as important motives for traveling to rural areas: the desire to learn more about the life in the countryside and tradition, looking for authentic experience, visiting friends or relatives, recommendation from friends/relatives, choosing a thematic arrangement that includes getting to know the rural areas, exceptional promotion through the media, in some cases the desire for a slightly cheaper way to spend the holidays, the desire to relax in the peaceful rural environment, research of the rural culture (history, architecture, festivals, customs) with the desire that the tourist becomes part of this cultural circle during their stay at the destination, the desire to return to nature and the stay in an environment significantly different from the everyday one (Millington, Locke, & Locke 2001). Also, tourists interested in visiting rural areas differ in terms of lifestyle, profession, and income level. These are the tourists who spend one or two nights in a rural area on their way to an urban center (which is the ultimate goal of their trip), but also those for whom a stay in the rural area is the primary goal. Long term sustainable development of rural tourism in Continental Croatia may be provided only through integrated tourism offer of special interest tourism types and that it is necessary to manage its development in the whole Continental Croatia (Bartoluci, Hendija, Petračić 2016:142).

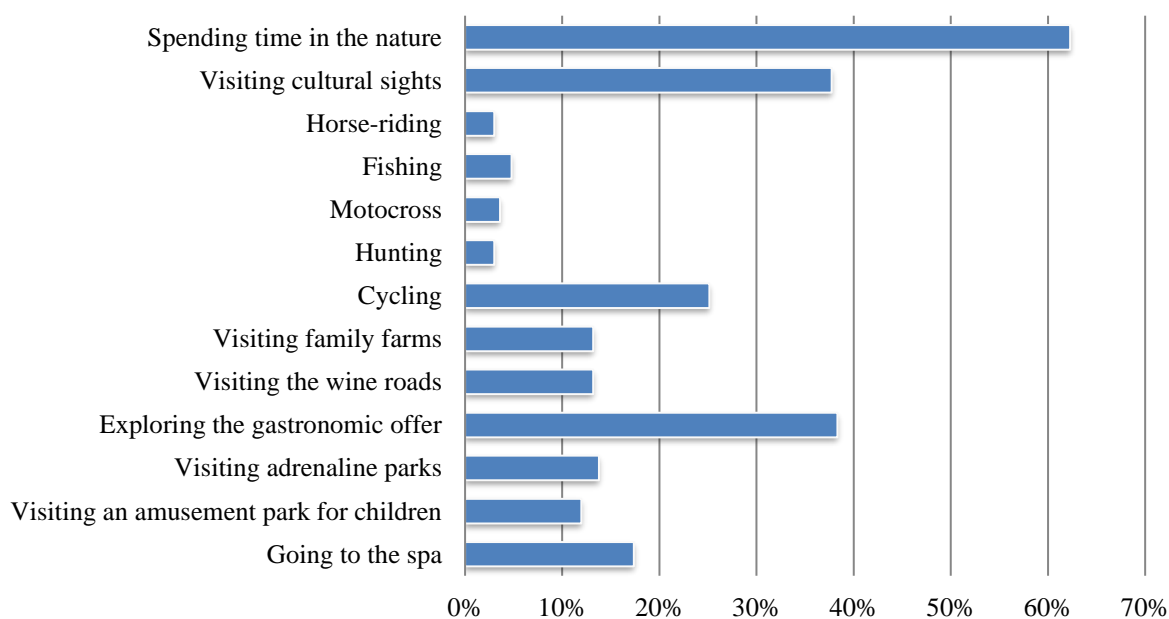
### **2.3. Cyclotourism**

Cyclotourism is a selective form of tourism characterized by high attractiveness and medium competitiveness. It attracts travelers from the age of 18 to 34. It can be connected with health tourism, i.e. recreational way of spending the vacation or the free time during a business trip. According to the crucial document of the Croatian tourism, Croatia is one of the leading Mediterranean cyclotourist destinations. This is primarily due to the attractive natural resources, then bicycle parks, trails, hospitality facilities. In order to develop this product of the Croatian tourism, it is necessary to activate unused paths and thematize them so they would become educational, gastronomic, and similar routes. An action plan for the development of cyclotourism has been developed with the aim to improve the offer by building belvederes, providing bicycle repair services, setting up appropriate signalization on the routes, and alike (Millington, Locke, & Locke 2001). Among other activities related to cyclotourism which are important for this paper, it should be pointed out that in 2017 the cyclotourism and the public transportation in the city of Zagreb were connected where citizens can now put their bicycles at the back of the trams. There is a need for opening specialized agencies for cyclotourism which would show that its development is not questionable because the perspective exists and only adequate human resources are missing to help improve this form of tourism, which we believe can significantly contribute to the development and promotion of continental tourism in general.

### 3. RESEARCH

What is of the greatest importance for understanding and assessing the state of tourism development for each destination, is conducting qualitative research of the attitudes of groups that, in constant interaction, form an indivisible whole of the tourism process as an interaction of motives, interests and benefits of the development results. In such circumstances, a survey is most often carried out. In order to point out the importance of the development of continental tourism through its recognizability and preferences of the target market segment, a survey among the population of the city of Zagreb was conducted. The residents of the city of Zagreb represent the target segment which, as confirmed by this research also, often and gladly, as excursionists and tourists, visit rural destinations in the area. The survey gathered their views on visits and tourist stays at the surrounding continental places and well as on the activities they engage in while being there. It is important to emphasize the differentiation between the terms tourist and excursionist. The tourists stay involves a minimum of one night, while one-day visitors belong to the category of excursionists, which is derived from the concept of excursion that implies a predetermined combination of at least two individual services consisting of transport or other tourist and hospitality services, lasting less than 24 hours and not including an overnight stay (NN 68/07., Article 5). The survey was conducted in December 2017 in Zagreb on the Ban Jelačić Square. Random passers-by were surveyed and after five days 253 correctly completed questionnaires were collected. When analyzing the socio-demographic characteristics of the respondents, it is evident that out of the total number of respondents, 61% are female and 39% are male. Most of the respondents indicated the following cities as their place of residence: Zagreb, Zaprešić, Zabok, Krapina, Jastrebarsko and Veliko Trgovišće. This sample of respondents is suitable for the conducted research since the respondents are potential visitors/excursionists to the surrounding destinations of the continental macro-region. In the conducted survey, the habits and motives of potential excursionists and the way of spending their free time as well as the activities they enjoy in their free time were examined by a set of closed questions. First of all, the residents of the city of Zagreb had to provide their answers about how they spend their free time and what activities and hobbies they are most often engaged in.

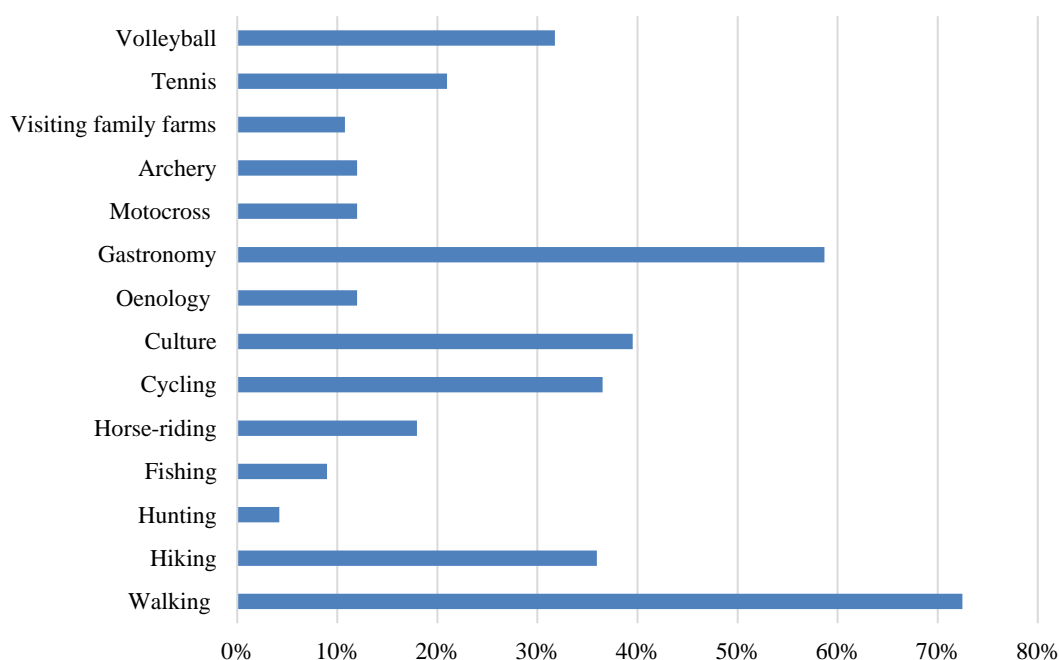
*Figure 1: How the respondents spend their free time*



*Source: Author's analysis of the conducted survey*

According to the answers provided, it is possible to conclude that as many as 62.3% of the respondents spend their free time in the nature. The next items, after spending time in the nature, are the research of the gastronomic offer with 38.3% and visiting the cultural sights with 37.7%. As many as 25.1% of the respondents use their free time for cycling. Going to the spa, visiting adrenaline parks, local family farms, wine roads and amusement parks for children are activities that about 15% of the respondents engage in. A smaller percentage of the respondents choose activities such as hunting, fishing, motocross and horse-riding. In addition to the activities offered at the excursion destinations, the respondents' wishes and preferences for the activities they would be interested in during the excursion were examined. The analysis identified activities for spending the free time that would make potential tourists choose a continental destination that has the opportunities to develop such activities. The answers to this question are an extension of the previously asked question, so a large percentage of the respondents stated they were interested in going for a walk, 72.5% of them, which corresponds to the answers given to the previous question where 62.3% of the respondents stated they like to spend their free time in the nature. Gastronomy and culture are again listed as priorities with 58.7% and 39.5%. The sports excursionists are interested in are cycling (36.5%), hiking (35.9%), volleyball (31.7%), tennis (21%), horse-riding (18%), enology, motocross and archery (12%). Only 10.8% of the respondents are interested in participating in the organic food production process, while less than 10% of them are interested in hunting and fishing.

*Figure 2: Activities the respondents are interested in during the excursion*

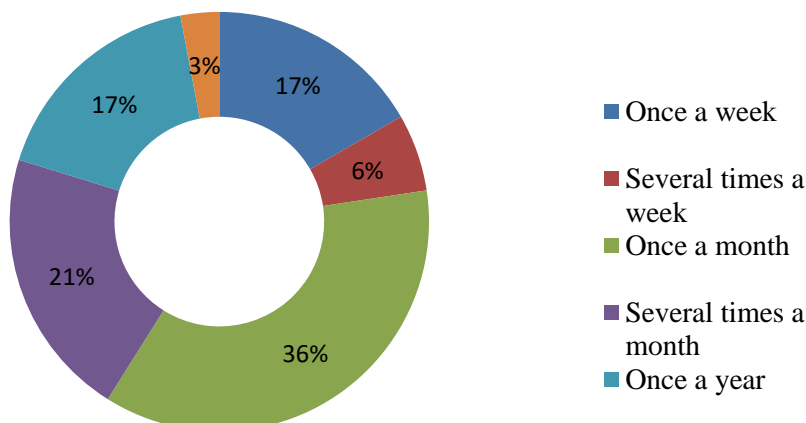


*Source: Author's analysis of the conducted survey*

The question which is very important for this research is related to the excursionists' habits, that is: "Do you go on excursions outside your place of residence (up to about an hour's drive)?" The answers indicate a high and frequent activity of the respondents and their shorter excursions outside their place of residence. As many as 36% of them go on an excursion once a month, and 21% of them even up to several times a month. 17% of the respondents go on an excursion once a week and the same percentage of them once a year. A smaller percentage of all of the respondents go on an excursion several times a week (6%), and only 3% of the respondents do not go on an excursion at all.



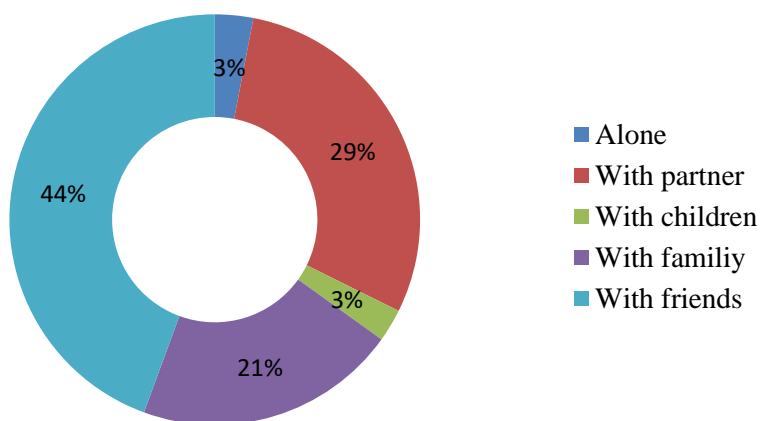
*Figure 3: Do you go on excursions outside your place of residence (up to about an hour's drive)?*



*Source: Author's analysis of the conducted survey*

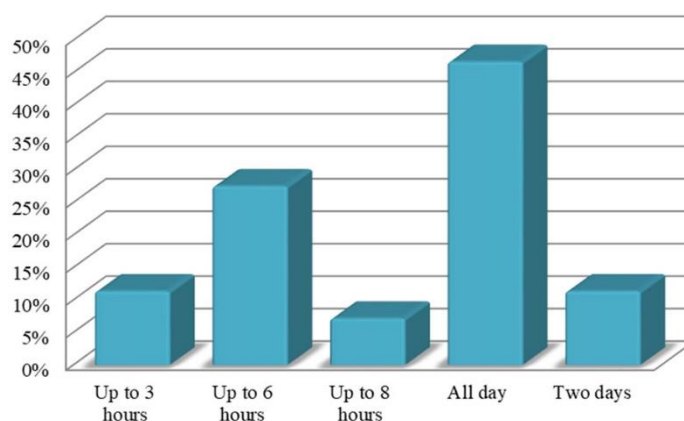
They usually go on a trip with friends, partners and the extended family, while a minor percentage of the respondents go on a trip alone or with children. The fact that a small percentage of them go on a trip with children can be explained by looking at the answers given to the demographic questions, which show that there is a small number of those with younger children among the group of respondents.

*Figure 4: With whom the respondents go on excursions*



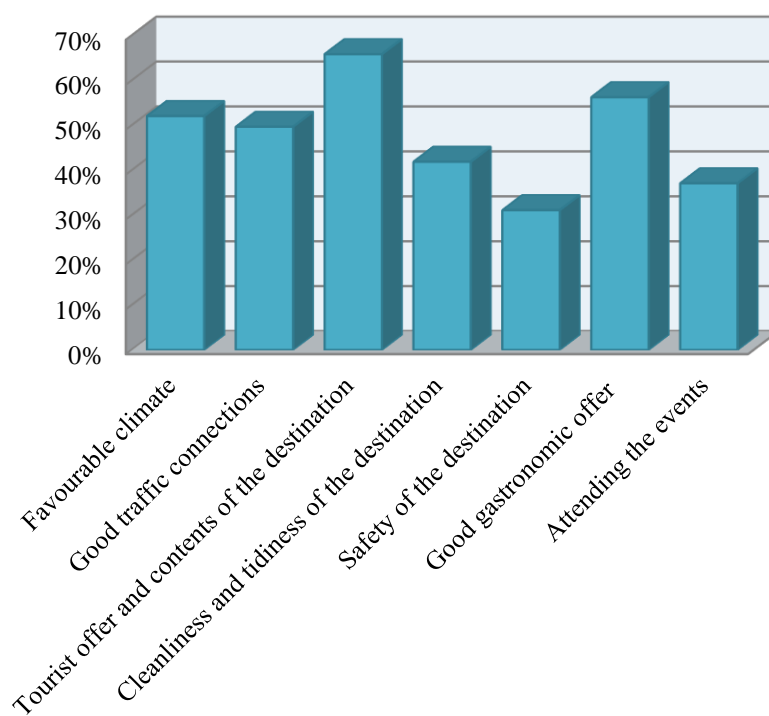
*Source: Author's analysis of the conducted survey*

The information about the duration of stay at the excursion site is important for each destination which is trying to present itself as an excursion site to the target group. The duration of stay at the destination is proportional to the excursionists' consumption. A longer stay requires more activities the tourists can engage in, but it brings multiple financial benefits to the destination. The respondents' answers revealed that 46.7% of them spend a whole day at the destination, while 27.5% spend up to 6 hours at the destination, and 11.4% of the respondents spend there up to 3 hours. The same number of them (only 11.4%) stay at the destination for two days which puts them in the category of tourists since they spend the night at the destination.

*Figure 5: Excursionists' duration of stay at the destination*

*Source: Author's analysis of the conducted survey*

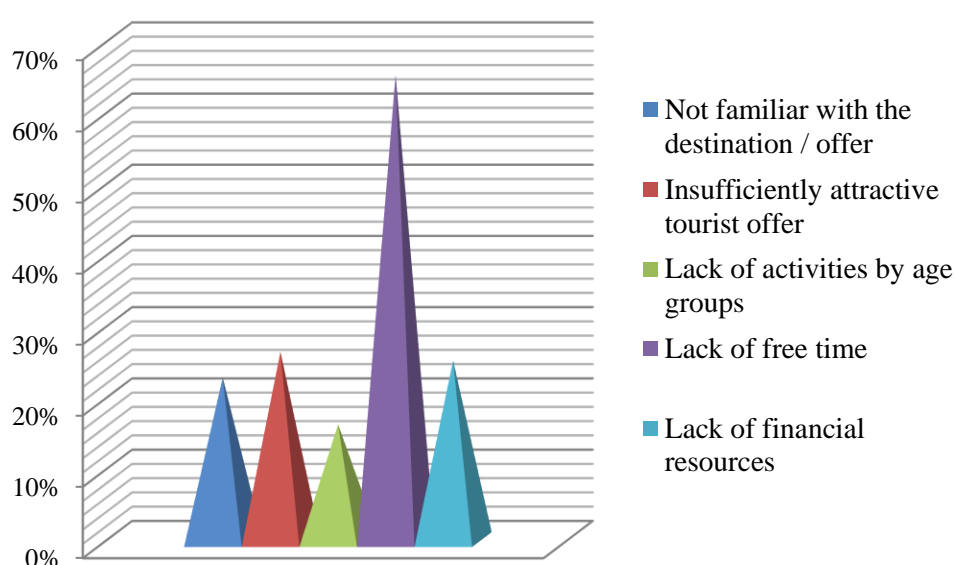
Throughout the history, people have traveled for a variety of reasons and motives. The specific needs of a modern tourist came along with the development of tourism. The needs of excursionists in continental tourist destinations were examined by the following question in the survey. When asked what they consider as important when choosing an excursion destination, the respondents listed the tourist offer and tourist contents of the destination as crucial (65.9% of the respondents agreed with that statement). A good gastronomic offer is important for 56.3% of the respondents, while favourable climate is certainly important for the time spent outside the place of everyday residence because weather is most often a limiting factor for outdoor activities which was confirmed by 52.1% of the respondents. Other, but not less important, factors listed were good transport connections, cleanliness and tidiness of the destination, attending the events and safety of the destination.

*Figure 6: Important factors when choosing an excursion destination*

*Source: Author's analysis of the conducted survey*

As the most common reason why they do not go on excursions in the area more often, the respondents answered that the primary reason is the lack of free time (for 65.3% of them). Between 22% and 27% of the respondents answered that they are not familiar with the destination/offer, they consider the tourist offer as insufficiently attractive as well as not offering enough activities by age groups, while a few mention the lack of financial resources as the main reason for not going on excursions to the nearby destinations. It can be concluded that more attention should be paid to the branding and the promotion of the destinations which are in the vicinity of larger cities where one could go on excursion while the emphasis should be definitely put on the popularization and the development of activities which do not require much time such as outdoor sports, walks and enjoying the gastronomic specialities of the surrounding areas.

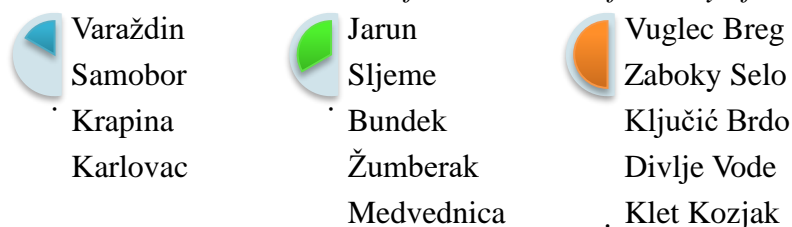
*Figure 7: Limiting factors for going on excursions in the area*



*Source: Author's analysis of the conducted survey*

The respondents were asked an open-ended question to list 5 favourite excursion sites in the area they visit.

*Figure 8: Favorite excursion sites of the residents of the city of Zagreb*



*Source: Author's analysis of the conducted survey*

The respondents singled out the following: in terms of the bigger centers, the largest number of the respondents mentioned Varaždin, Samobor, Krapina and Karlovac. The mentioned destinations are located within an hour's drive from Zagreb which confirms the fact that the

residents of the city of Zagreb often spend their free time at the nearby destinations. The prerequisites for choosing these destinations are good location, traffic connection, both with Zagreb and with other destinations, but also plenty of cultural contents and events at these destinations. The next group of excursion sites included Jarun, Sljeme, Bundek, Žumberak and Medvednica. It can be concluded that this excursionists' choice comes from the specific offer of these excursion sites, which indicates there is a need for a wider range of tourist offer contents. Vuglec Breg, Zaboky Village, Ključić Brdo and Divlje Vode are also respondents' favourite excursion sites. They can be described as estates with the hospitality offer and accompanying services. Numerous family farms that should be valorized for tourism are also important for the tourist offer.

#### 4. CONCLUSION

Tourism is taking up a part of people's free time which is one of the greatest valuables of busy people in the 21st century. For this reason, a tourist is particularly sensitive, extremely demanding, critical, but on the other hand highly motivated, prone to exploration, inspired, with a sincere desire to enjoy the destination he is visiting. Tourism is characterized by constant changes in tourist demand trends and the development of new travel motives. Tourists are no longer satisfied with a uniform tourist offer or exclusively with a quality accommodation, but they are looking for an experience while quality accommodation and services are implied. The areas located in the immediate vicinity of the urban centers are marked by additional tourist motives. The development of continental tourism would enrich the overall tourist offer, enable the presence of the tourist demand throughout the year (reduction of seasonal fluctuations in the tourist traffic), increase the utilization of accommodation capacities and ultimately, increase the tourist consumption. Continental tourism can significantly contribute to the development of the economy; moreover, the development of continental tourism, in addition to the economic, contributes to the other, not less important, improvements of the rural community and the quality of life for the local population of the whole region. The paper presents the results of research on tourists' opinion and their overall satisfaction based on the example of activities they engage in during their visit (excursion) to the nearby destinations. As previously mentioned, excursionists (compared to transit and residential tourists) make the largest part of tourist visits to the continental destinations. A survey was conducted among excursionists who represent a key segment of visitors to the continental destinations. By analysing the respondents' answers, the conducted research indicates the need for identifying the habits and the satisfaction of visitors when creating and forming a tourist offer, which therefore explains the choice of the survey location since the residents of Zagreb and its surrounding areas are potential excursionists to the nearby continental destinations. Tourists' demand for the tourist offer of the Continental Croatia will depend on the attractiveness and competitiveness of the tourist offer in this region. The basis of this development might consist of special interest tourism types that can be evaluated in more detail through an integrated tourist offer. In order to properly position the tourism development of all destinations, including the continental ones, it is necessary to keep up with the trends, that is, adjust the tourist offer accordingly. It is important to emphasize that each tourist destination should continuously define its trends through its offer of specific forms of tourism according to the preferences of the target market. In fact, since each period of time brings certain changes the need to modify some features of the offer will always be present.

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## **MUNICIPAL BONDS AS A POSSIBLE MODEL OF FINANCING CAPITAL PROJECTS OF LOCAL SELF-GOVERNMENT UNITS**

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### **ABSTRACT**

*Local government units have limited budgets and often find themselves in a situation where investment needs for local community development go beyond budget possibilities for their funding. This paper analyzes municipal bonds as a possible way of obtaining funds to finance local self-government projects, and gives a brief overview of markets for these securities in the United States, the selected European Union (EU) countries and the Republic of Croatia. Since local authorities in certain EU countries successfully issue municipal bonds to finance development projects, the paper specially emphasize theirs management model. In the Republic of Croatia, the municipal bond market was established in 1995, but virtually no longer exists since there is currently no issued and on the secondary market listed municipal bonds. Inadequate development of the Croatian capital market, currently low interest rates of commercial banks, open possibilities for financing capital projects of public interest through European Union funds, and lack of knowledge and experience of issuers and potential investors on municipal bond issuance, limit the application of these securities with world growing attractiveness.*

**Keywords:** *Croatian capital market, Local self-government units, Municipal bonds*

### **1. INTRODUCTION**

The economic growth and development of local communities depends on the ability of local institutions to organize programs and strategies for development and to provide the financial resources for their implementation. The main source of funding for local government needs is its budget. However, there are situations when the investment needs exceed the budgetary possibilities of local self-government units (construction and modernization of hospitals, building of capacities for thermal energy production, improvement of water supply, etc.). In these circumstances, the local government is forced to seek funding from external sources. Most often the local government decides to use bank loan. In practice of developed countries, some other instruments for financing local government needs have been developed, such as the issuance of municipal bonds that has also been used by some local governments in the Republic of Croatia. The issuance of municipal bonds enables local self-government units to realize the planned projects and to release one part of the budget funds for other purposes. The aim of this paper is to show how local self-government units can obtain additional funds for financing capital projects by issuing municipal bonds, as well as to analyze their advantages in order to emphasize the attractiveness of this financial instrument from both, local self-government and potential investors aspects.

Apart from the introductory and concluding section, this paper consists of three chapters. The first chapter deals with municipal bonds as a financial instrument for local self-government units. The prerequisites for a successful issuance as well as the characteristics of the municipal bond issuance are addressed. The next chapter discusses the advantages of municipal bonds in financing projects of public interest. Although the financial aspect is the most significant, it should also be noted the marketing impact that a local self-government unit achieves by issuing municipal bonds, the increased transparency of local government financing, as well as the wider impact on development of the financial system itself. The last chapter of this paper presents the analysis of the municipal bond market in Croatia and a comparison with some countries with more developed capital markets.

## **2. MUNICIPAL BONDS AS A FINANCIAL INSTRUMENT**

Municipal bonds are securities quoted on the capital market and issued by a local government unit (city or county) for the purpose of raising the capital needed to finance projects of local public interest. They are issued for a fixed term and at a fixed interest rate, that is paid to the bondholder at a predetermined schedule. When the municipal bond reaches its maturity date, the full amount of investment has to be paid to its holder. Basically, municipal bonds are long-term securities, but in some cases they may have medium-term duration. There are two types of municipal bonds: general obligation bonds and revenue bonds. For general obligation bonds, the issuer agrees to use all its financial resources to pay off the bonds. Such bonds have no specific collateral nor is any particular source of income intended for their repayment. As the issuer commit itself to do its best to pay off the bonds, and there is a high likelihood that the issuer will repay its debt, interest rates on general obligation bonds are lower than on revenue bonds. Revenue bonds are supported by the income from a specific project for which purpose of financing they were issued and they have higher risk than general obligation bonds. If the income generated by the project is not sufficient to pay off the bonds, other tax revenues cannot be used to cover these bonds and they remain unpaid. The issuance of municipal bonds is the simplest way of local government borrowing outside the banking system. Basically, municipal bonds represent a loan that investors provide to the issuer under certain conditions, considering the price of invested funds (interest rate) and the maturity date (Foley 1993). The main difference between a bank loan and a municipal bond derives from the basic characteristics of a bond: it is marketable and transferable. The business relationship that occurs within the bank loan remains at the lender-to-borrower relation until the loan is repaid. In case of municipal bonds, the investor credits the issuer, but he does not have to remain in business relationship with the issuer until the bond reaches its maturity date; he can sell his bond on the capital market and convert it into liquid assets at any time. The new buyer of a municipal bond inherits all the rights that the bond bears. The issuance of municipal bonds allows local government units direct access to capital market and the most transparent way of borrowing. Local debt becomes more accessible to interested parties, especially to small individual investors. Furthermore, participation in the capital market requires the publication of information on the operations of local government units, thus contributing to their effectiveness.

### **2.1. The prerequisites for municipal bonds issuance**

The issuance of municipal bonds is a very complex process and for the success of this process it is necessary to fulfill a number of prerequisites that can be categorized into the following four categories:

- The existence of a legal basis for the issuance of municipal bonds;
- The existence of a capital market that can successfully absorb new issuance of municipal bonds;

- The existence of a capital market that will, with various financial instruments, allow investors to obtain an adequate yield rate with an acceptable risk level;
- The existence of local self-government units with an adequate creditworthiness.

One of the basic prerequisites for the issuance of municipal bonds is the existence of a legal basis. The Budget Act (OG 87/08, 136/12, 15/15) regulates the borrowing of local self-government units. The State Budget Execution Report sets budget limits for local government borrowing and providing guarantees for borrowing. Local self-government units are subject to most legal provisions relating to borrowing and central government debt management. The state regulates the borrowing of local self-government units with additional regulations, such as the Ordinance on the procedure for borrowing and providing guarantees and approvals of local and regional self-government units (OG 55/09, 139/10). Local self-government units borrow on a basis of a decision of the representative body with the prior consent of the Government. The Government provides guarantees to protect from the risk of local government inability to pay off the debt and therefore, its consent is required. The Ministry of Finance prescribes that long-term borrowing of local self-government units is only possible for investments, i.e. expenditures for the acquisition of non-financial assets, and that the total annual liability of local self-government units cannot exceed 20% of realized revenues in the year preceding the year in which the borrowing occurs.<sup>1</sup> The Capital Market Act regulates borrowing by issuing securities (OG 65/18). Since the Republic of Croatia is a member state of the European Union, in addition to its national acts and ordinances, municipal bonds issuers must also comply with provisions laid down by the European Parliament and the Council of the European Union, such as the Regulation on the prospectus to be published when securities are offered to the public or admitted to trading on a regulated market (Regulation (EU) 2017/1129 of the European Parliament and of the Council of 14 June 2017). Apart from the existence of a legal basis, one of the prerequisites for a successful issuance of municipal bonds is also the existence of a developed capital market. Compared to other countries, the capital market in Croatia is still not sufficiently developed. Local self-government units in countries with not sufficiently developed capital markets may consider issuing eurobonds (bonds denominated in a currency other than the domestic currency of the country or market in which they are issued). The largest issuance of eurobonds by regional or local authority in Central and Eastern Europe was the issuance of the City of Bucharest on the London capital market in 2005. The 500 million euros issuance for a period of 10 years was completely redeemed and in this way Bucharest raised funds to finance its infrastructure projects (NALAS 2011, 45). Before making a decision on the issuance of eurobonds, the cost of such issuance for local self-government units in Croatia should be assessed. The capital market allows all interested parties to invest their funds in securities that enable greater capitalization or safer investment, while providing them with the assurance that they can transform their securities into liquid assets at any time. Municipal bonds, as a means of financing public needs, can mobilize the financial resources of large and small investors. Particularly important are small investors as they are large in number and the accumulation of their funds achieves an impressive investment potential (Penavin 1999, 122). Deposits of Croatian citizens have increased in recent years and in mid-2018 they exceeded 200 billion HRK. Their annual growth was approximately 7,5 billion HRK, or 4%. When deposits and loans of households and companies are jointly observed, the growth of deposits has been faster than the growth of loans recently. In the first nine months of 2018, the total loan growth amounted to 8,5 billion HRK, while deposits increased twice as fast and amounted to 17 billion HRK (CNB 2018). The classic term deposits in banks constitute the largest single part of household financial assets, but due to the drop of passive bank interest rates and the introduction

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<sup>1</sup> The restriction does not apply for the projects co-financed from EU pre-accession programs and funds, as well as for the projects in the field of energy efficiency improvement.



of taxation on savings, citizens are beginning to be interested in investing part of their available funds into securities. However, the capital market that is not sufficiently developed and the small number of liquid securities limit the investments of small investors, generally leaving their funds in the accounts of commercial banks. The successful issuance of municipal bonds also requires the appropriate creditworthiness of local self-government unit. It represents the ability of local self-government unit to regularly pay off with its income the obligations arising from the credit relationship. Each local self-government unit, as a municipal bond issuer, is obliged to assess its financial capabilities and, in accordance with the plan for the inflow of funds into the budget, plan the volume of municipal bonds issuance as well as the dynamics of their maturity.

## **2.2. The characteristics of municipal bonds issuance**

In the process of issuing municipal bonds, there are many participants and several stages in its realization. The key participants are the issuer and the investors. However, there are a number of professionals on the way from one to the other, such as investment bankers, underwriters, dealers, brokers, financial advisors, legislators, etc. whose goal is to support the secondary market for debt securities. The process of issuing municipal bonds starts with the local self-government unit that must select a project for which it wants to raise funds and carry out an expert evaluation of investment justifiability. The financial advisor, in collaboration with the issuer, defines the main characteristics of municipal bond issuance, such as municipal bond denomination, interest rate, maturity date and payment method. The nominal value of municipal bonds will depend on potential investors. In case that expected investors will be institutional, the nominal value will be higher. If the municipal bond issue is intended to be sold to individual investors, a lower nominal value will be more appropriate as it will allow easier trading on the secondary market. The interest rate depends on the risk rate, i.e. the creditworthiness of the issuer – the higher is the risk, the higher is the interest rate and vice versa. Considering the maturity date, the general rule is that the maturity date coincides with lifespan of the project financed in this way. Regarding to the payment method, it is necessary to define whether there will be issued one-time or annuity municipal bonds. One-time payable municipal bonds oblige the issuer to repay the borrowed amount of money to investors at once, at the end of maturity date, while the interests are paid periodically. Annuity municipal bonds are amortized by periodic annuity payments consisting of interest and repayment quota. The structure of annuities changes according to their payment periods (interest rates are gradually reduced and the repayment quota increases). Due to the budgetary constraints, i.e. less annual budget burden, local self-government units generally issue annuity municipal bonds. Most municipal bonds contain a recall option that allows the issuer to redeem the bond prior to the maturity date. All types of bonds, except those without coupons, can be recalled. The recall option is indicated on the municipal bond itself at its issuance. The issuer usually recall bonds when interest rates drop and reissues new municipal bonds at a lower interest rate. The price of recalled municipal bond that the issuer pays to the bondholder must be greater than the nominal value since the bondholder faces certain loss in the form of future unpaid interests due to the early bond redemption. Nevertheless, by issuing bonds with a recall option, the issuer ensures the possibility of dynamic optimization of his capital structure by reducing the cost of capital. After defining the main characteristics of the municipal bonds issuance, the request for issuing a debenture approval has to be submitted to the Ministry of Finance and then the drafting of prospectus begins. The prospectus contains a description and financial position of the local self-government unit, terms of municipal bonds issuance, risk factors, taxation of municipal bonds (interests, principal, capital gain) and other information. The municipal bond issuer submits to the Croatian Financial Services Supervisory Agency (HANFA) the request for approval of securities prospectus. If HANFA approves the prospectus, the municipal bonds issue can start.

After the final decision on the municipal bonds issuance, the local self-government unit has to decide whether to use the competitive or the negotiated sale method. In a competitive sale method, the municipal bonds issuer, with the help of financial advisor, performs all the actions necessary for the issuance of municipal bonds, such as preparation of prospectus, defining the volume of issue and maturity date, obtains the credit rating from the agency, etc. After undertaking all necessary actions for the issuance of municipal bonds, he announces the sale of the bonds. Brokers consider the offer and decide what discount rate to offer to be able to resell the municipal bonds to investors and thus make a profit. They submit their bids that go to the bidding process. Municipal bonds are awarded to the bidder offering the lowest discount rate (lowest cost). In negotiated sale method financial advisor takes over most of the work regarding the issuance. His main tasks are to evaluate the creditworthiness of the issuer, to define all the relevant elements of the issuance, to prepare the prospectus, to advertise the issuance, etc. In most cases, the financial advisor is also the underwriter. Usually, he will take over the entire issue of municipal bonds at a fixed, discounted price, to resell it to investors and make a profit on a difference in price. In this way, the financial advisor takes the risk that he may not be able to resell the municipal bonds at a higher price. Such a situation may arise if the price of municipal bonds suddenly drops due to unexpected changes in interest rates or if the issuer's creditworthiness comes into doubt. At the same time, the issuer has protected himself from the risk and has sold all the municipal bonds issued, although he did not receive the full nominal amount of the issuance, but the discounted amount. The negotiated sale method is more appropriate to the situation in Croatia where domestic issuers do not have a lot of experience with the issuance of municipal bonds and the capital market is not sufficiently developed.

### **3. BENEFITS OF MUNICIPAL BONDS ISSUANCE IN FINANCING PROJECTS OF PUBLIC INTEREST**

Decentralization of public finances is of increasing importance since local government is responsible for the development of the local community. Local public needs are mainly financed by tax revenues and government transfers. Today, most local self-government units are facing a lack of financial resources and are seeking new sources of financing local public needs. The most commonly used form of obtaining additional funding for capital investments at the local level is the long-term borrowing of local self-government units and companies owned by it. This can be achieved through commercial bank loans, leasing, loans and grants from state financial institutions, issuing municipal bonds, and through loans and grants from international financial institutions. Given the aforementioned possibilities for financing local public needs, it raises the question of how justified it is to use municipal bonds as a means of financing and what are the advantages of this form of financing over other options. The most commonly used form of local self-government units borrowing is through bank loans (Penavin 1999; Bajo and Primorac 2010). The advantages of a bank loan over municipal bonds are the ease of the loan approval process due to the smaller number of participants and the speed of realization. The agreed amount of the loan certainly comes to the account of the borrower, that is, the account of the local self-government unit, and the borrower is in relationship to only one creditor (the bank). The benefits of financing local self-government units needs by issuing municipal bonds result from often unfavorable conditions of bank lending (relatively high active and low passive bank interest rates<sup>2</sup>), and from the very character of the municipal bond as a security. A municipal bonds issuer can choose an interest rate that is lower than the active and higher than the passive bank interest rates, thus obtaining benefits for themselves and

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2 High active bank interest rates have a deterrent effect on the potential borrower to decide to contract a loan with the bank, and low passive bank interest rates discourage investors to invest their excess funds in the bank.

investors<sup>3</sup>. In general, the interest rate is determined by the municipal bonds issuer's creditworthiness – the higher the issuer's credit rating, the lower the interest rate due to the lower investors' risk exposure. Benefits for a municipal bonds issuer also come from the ability to raise significantly larger amounts of financing and from early amortization of bonds through their purchase on the capital market, thereby reducing the cost of the issue (the issuer thus purchases its bonds at an appropriate discount). Since municipal bonds are generally issued to raise funds for capital projects, the issuer can issue as many municipal bond series as there are projects if their implementation is carried out in succession. The issuance of municipal bonds also achieves a certain marketing effect, i.e. media exposure in relation to classic credit financing. Entering the capital market confirms the strength, financial stability and transparency of local self-government unit as a municipal bonds issuer. The main drawbacks of municipal bond issue are reflected in the complexity of the borrowing process, the length of the implementation process, and the additional costs associated with issuing bonds and paying interest and principal. Despite these shortcomings, municipal bonds belong to the most attractive securities in developed countries and are ranked very high regarding security and marketability.

#### **4. ANALYSIS OF MUNICIPAL BOND ISSUES IN THE REPUBLIC OF CROATIA AND SELECTED DEVELOPED COUNTRIES**

##### **4.1. Municipal bonds in developed countries**

The first officially recorded municipal bond issue in the world occurred in the United States in 1812, when the City of New York issued general municipal bonds for the construction of a canal (Wesalo Temel 2001). Today, the US has the largest and most developed municipal bond market. The value of that market was 3,85 trillion USD in the second quarter of 2018, with more than 80.000 municipal bond issuers (Kearney 2018). The most common investors in US municipal bonds are individual investors, investments funds, insurance companies, commercial banks and foreign investors. In these volatile economic times, investing in municipal bonds is considered a safe way of preserving wealth for these interest groups. Nearly 94% of municipal bonds are investment rated BBB or higher, and 72% have AA or AAA ratings (Standard&Poor's 2018). Individual investors held municipal bonds in the amount of approximately 1,6 trillion USD in the second quarter of 2018 (Kearney 2018). Municipal bonds are exempt from federal income taxes and most state and local taxes, making them particularly attractive to individuals in the high tax brackets who generally hold them in their possession until maturity. As for the selected EU countries, access of local self-government units to capital markets is different in each EU member state. According to data from 2013, Germany has the most developed municipal bond market. Specifically, 40,97% of German local self-government units' debt was realized through domestic bond issues. Spain's regional institutions are the second largest, where 35,99% of Spanish debt is financed by securities (Bellot et al. 2017). With the introduction of new legislation in the mid-1990s in Italy, local government borrowing by issuing municipal bonds was encouraged.

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3 In 1995, Istria County issued the first municipal bonds in Croatia in the amount of 2 million DEM, with a maturity of two and a half years. The annual interest rate was 11%, and as such was attractive to both issuer and investors. At the same year, the average annual interest rate of commercial banks on long-term foreign currency loans in DEM (active bank interest rate) was 14,71%, and the average annual interest rate on long-term foreign currency savings and time deposits in DEM (passive bank interest rate) was 6,52% (CNB 1996). The City of Split, as the last issuer of municipal bonds in Croatia, issued municipal bonds in 2008 in the amount of 8,2 million EUR, with a maturity of 10 years and a 6% interest rate. At the same time, average annual interest rate of commercial banks on long-term foreign currency loans in EUR was 6,87%, and the average annual interest rate on long-term foreign currency savings and time deposits was 4,97% (CNB 2009). From both examples it can be concluded that by issuing municipal bonds, local self-government units have obtained the required capital at a lower cost compared to borrowing from commercial banks, and by investing in municipal bonds, investors have earned a higher return compared to those achieved on deposits in commercial banks.

The municipal bond market has grown from just 6 issues totaling 227 million EUR in 1996 to an average of 150-200 issues totaling 5-7 billion EUR a year until the last global financial crisis (Pinna 2015). At the end of 2017, total indebtedness of local self-government units amounted to 49,5 billion EUR, of which 8,5 billion EUR was in municipal bonds issued (Padovani et al. 2018). Most of the literature on municipal bonds today analyzes the US market. However, the Scandinavian model of municipal bond management is becoming increasingly interesting to countries in Europe. KommuneKredit (<https://www.kommunekredit.dk>) is the first local government credit institution established in Denmark in 1898. It was established as a credit association for the purpose of providing loans to Danish local authorities. Members of KommuneKredit are the municipalities and regions of Denmark. Local governments can only borrow for specific purposes and not for current expenditures or commercial projects. KommuneKredit's credit rating is AA+/Aaa and indicates a strong structure in which members of the association are jointly and severally liable for all KommuneKredit obligations. Given the high degree of security of such an investment, KommuneKredit is considered one of the strong municipal bonds issuer. According to the Danish model, the credit institution Kommuninvest (<https://kommuninvest.se>) was established in Sweden in 1986. Kommuninvest is owned by 280 Swedish municipalities and counties and aims to support their finances. Kommuninvest has an AAA/Aaa credit rating and, with around 220 billion SEK in loans, is the largest lender to Swedish municipalities and counties. Following the example of the Scandinavian model, the UK Municipal Bond Agency (<https://www.ukmba.org>) was founded in London in 2014. Local self-government units in the UK have a high credit rating, but their access to the capital market is limited. Most local self-government units in the UK are too small to enter the capital market on their own, but can borrow relatively cheaply from the Public Works Loan Board, a UK government body that lends to local authorities from the National Loan Fund. Local self-government units have more than 85 billion £ in debt and borrow additional 3 billion £ a year for new expenditures or refinancing existing debts (The Investment Association 2016). Most of the debt is with the Public Works Loan Board and the rest of the loans come from commercial banks. The development of the municipal bond market would bring many social and economic benefits to local communities. Municipal bonds would allow local government access to cheaper financial resources to finance growing infrastructure needs, while providing relatively safe returns to investors.

#### **4.2. Municipal bonds in Croatia**

The main investors in municipal bonds are commercial banks, investment funds, pension funds and insurance companies. Banks played a dominant role at the beginning of the creation of the Croatian capital market until 2002, when investment funds and pension funds appeared on the market. With the entry of new participants into the market, banks have shifted their interest to investing in Treasury bills and reduced their investments in bonds, even though they are still appearing as agents of government bond issues today. Pension funds can invest a maximum of 30% of their funds in municipal bonds, while insurance companies are relatively less active on Croatian capital market and are more “buy and hold” investors (Bajo and Primorac 2010, Štimac 2011). Municipal bonds in the Republic of Croatia were issued from 1995 to 2008. Table 1 shows the characteristics and purposes of the so far municipal bond issues in Croatia.

*Table following on the next page*

*Table 1: Characteristics and purposes of municipal bond issues in the Republic of Croatia*

<i>Issuer</i>	<i>Year of issue</i>	<i>Maturity</i>	<i>Issue value</i>	<i>Interest rate</i>	<i>Purpose</i>
Istria County	1995	1998	2 million DEM	11%	Construction of wastewater system
Istria County	1996	1998	4 million DEM	7%	Pula General Hospital debt financing
Istria County	1996	1999			
City of Opatija	1997	2001	14 million HRK	8,5%	Construction of water supply and sewerage
City of Koprivnica	2004	2011	60 million HRK	6,5%	Construction of communal infrastructure, school and sports facilities
City of Zadar	2004	2011	18,5 million EUR	5,5%	Construction of indoor swimming pool and multipurpose city hall
City of Rijeka	2006	2016	24,6 million EUR	4,125%	Construction of sports center with swimming pool
City of Split	2006	2013	8 million EUR	4,5625%	Financing of infrastructure projects
City of Split	2007	2015	8,1 million EUR	4,75%	Financing of capital projects
City of Vinkovci	2007	2017	42 million HRK	5,5%	Construction of Croatian Home and indoor swimming pool
City of Osijek	2007	2017	25 million HRK	5,5%	Renovation of two city squares
City of Split	2008	2017	8,2 million EUR	6%	Financing of capital projects

*Source: Author's analysis according to Zagreb Stock Exchange, CNB, Poslovni dnevnik, Balo 2004*

The first municipal bonds in Croatia were issued by Istria County in 1995 in the amount of 2 million DEM and were quoted on the Zagreb Stock Exchange. The interest rate was 11%. These bonds are better known as eco bonds and have been issued to finance the construction of wastewater system. A year later, Istria County issued another municipal bond issue (the so-called health bonds), in two series, totaling 4 million DEM, with an interest rate of 7%, intended to finance debt to suppliers of Pula General Hospital. The first city to issue municipal bonds was the City of Opatija in 1997. The bonds were issued in the amount of 14 million HRK to finance the construction of water supply and sewerage. The amortization period was 4 years. The interest rate borne by the bonds was 8,5% on the nominal value of the issue and it was paid through 8 equal semi-annual annuities. The total amount of the bond issue was purchased by one institutional investor with a discount of 1,85% (Primorje-Gorski Kotar County 1997). The next issue of municipal bonds occurred in 2004 when the City of Koprivnica and the City of Zadar issued bonds with a maturity of 7 years for the construction of communal infrastructure, a school and sports facility in Koprivnica, and a closed swimming pool and city hall in Zadar. In 2006, City of Rijeka issued municipal bonds with a maturity of 10 years to build a sport center with a swimming pool. In 2007, Cities of Vinkovci and Osijek issued bonds with a maturity of 10 years to finance capital projects, namely the construction of the Croatian Home and indoor swimming pool in Vinkovci, as well as for the reconstruction of two city squares in Osijek. City of Split has been responsible for issuing municipal bonds for three consecutive years: 2006, 2007 and 2008 for financing development projects (reconstruction of city roads, project of residential and commercial building with garages, renovation of the seafront, investments in sport halls). The bonds issuance in 2008 was also the last issue of municipal bonds in Croatia. The second issue of municipal bonds of the Istria County, as well as the issue of bonds of the City of Opatija, were sold to buyers known in advance (the so-called private placement). All other mentioned municipal bonds were listed on the secondary capital market, but trading was rare.

Investors generally held municipal bonds until maturity, which is why they did not have market capitalization. Local self-government units have shown a will to access the capital market, but the global financial crisis and the trend of historically low interest rates on commercial bank loans have stopped them borrowing through municipal bonds issuance. Table 2 shows the average annual interest rates of commercial banks on long-term loans in HRK without a foreign currency clause, on long-term loans in HRK with a foreign currency clause, and on long-term foreign currency loans from 1995 to 2017. It can be observed their constant declining trend.

*Table 2: Average annual interest rates of commercial banks on long-term HRK and foreign currency loans (for period from 1995 to 2017)*

Year	Average interest rates on long-term loans (in percentage)		
	in HRK without currency clause	in HRK with currency clause	in foreign currency
1995	14,44	15,51	14,71 *
1996	14,65	11,76	12,23
1997	13,21 **	12,46 **	10,27 **
1998	14,08	12,33	9,39
1999	12,74	11,06	6,02
2000	11,59	11,15	7,43
2001	11,03	9,87	6,49
2002	7,31	6,80	6,37
2003	7,08	6,31	5,23
2004	6,74	6,01	4,98
2005	6,58	5,38	4,84
2006	6,16	5,77	5,34
2007	6,53	6,15	6,35
2008	7,68	6,87	6,87
2009	9,34	7,17	6,96
2010	6,59	7,24	6,41
2011	5,80	6,59	6,11
2012	5,94	6,22	5,92
2013	5,25	5,89	5,46
2014	4,02	6,06	4,52
2015	3,48	5,23	3,85
2016	3,09	4,50	4,10
2017	3,07	3,57	3,09

*(Source: Author's calculation according to CNB data)*

Remarks:

- \* Due to a lack of data, the average from July to December 1995 was calculated
- \*\* Due to a lack of data, the average from June to December 1997 was calculated
- Data up to 2001 (including that year) refer to average annual interest rates of banks (excluding savings banks) on long-term loans in HRK without a foreign currency clause, with a foreign currency clause, and on foreign currency loans granted to legal entities (which included companies, public sector, financial institutions, non-profit organizations and non-residents). Since 2002, due to limited availability of data, only banks average annual interest rates granted to companies have been reported. Long-term interest rates on foreign currency loans relate, until the end of 2001 (including that year), to loans granted in DEM, and since 2002 to loans granted in EUR. Long-term loans granted in other foreign currencies are not covered by this table. Due to a change in the CNB methodology, data provided since 2014 refer to average annual interest rates on long-term loans granted to non-financial institutions in excess of 7,5 million HRK.

Comparing the data in table 1 and table 2, it can be concluded that local self-government units acted correctly by issuing municipal bonds to finance capital projects, since the interest rates on municipal bonds were lower than the interest rates at which commercial banks would grant them long-term loans. The only difference is observed in case of the City of Zadar, which issued municipal bonds at an interest rate of 5,5%, while in the same year the average interest rate of banks on long-term loans in EUR was 4,98%. A possible justification for this decision may lie in the fact that commercial banks' interest rates on long-term foreign currency loans were higher in the past and it was expected that they would not fall below 5,5%. In any case, this situation requires deeper analysis and may be the subject of separate research. All other borrowings of local self-government units through the issuance of municipal bonds are justified in terms of cost. Although there are multiple benefits of obtaining funds through municipal bond issues, such as the possibility of involving a large number of individual investors, exemption from interest income tax for individual investors, increasing transparency of local self-government units, media exposure, etc., borrowing by issuing municipal bonds in Croatia is still not developed. The main reasons for the weak use of municipal bonds are primarily the currently low interest rates of commercial banks on long-term loans in domestic and foreign currency, new possibilities for financing capital projects through EU funds, insufficient development of the Croatian capital market, lack of knowledge and experience of issuers on issuing municipal bonds, as of potential investors on such securities. Regardless of the established trends, authors' opinion is that there is still room for future municipal bond issues, especially given the significant interest margin of Croatian commercial banks. Namely, the difference between the average active and average passive interest rates is around 5 percentage points, looking at the total level of loans and deposits, or even at the level of 6 percentage points for loans and deposits in HRK (CNB 2019). Although world-wide interest rates are at historically low levels, Croatian banks continue to maintain interest margins at significantly high levels, making the cost of local government financing higher. On the other hand, there are significant amount of liquid assets in Croatian deposit and non-deposit financial institutions that have nowhere to place their funds. The issue of municipal bonds, which represent a relatively safe, if not almost risk-free investment, would encourage financial activity to the benefit of all participants in the process. The issuance and listing of new municipal bonds on Zagreb Stock Exchange would stimulate inactive Croatian capital market, investors would get a new investment opportunity that would carry a higher rate of return, and at the same time, local self-government units would gather funds at a lower cost. With every announcement of the future rise of interest rates on global market, these benefits are becoming more prominent.

## 5. CONCLUSION

Local self-government units play an important role in the development of their communities. In order to carry out the tasks within their scope, they have budgetary resources at their disposal. The existing model of financing local self-government units is based mainly on tax revenues and grants that are not sufficient to finance the development and construction of urban infrastructure and other capital projects. Therefore, local self-government units are forced to seek additional funding from external sources. It is common practice in the world to use municipal bonds, which, in addition to diversifying the market, increase competitiveness among financial instruments. In some countries, such as the US, municipal bond interest income is exempt from federal income taxes and most state and local taxes, which is an additional incentive for investors to invest in these types of securities. Investing in municipal bonds is attractive to a variety of investors, and especially to conservative ones, since such securities have a lower degree of risk. In Croatia, municipal bonds were issued by only eight issuers, mainly for financing infrastructure projects and sports facilities. The first municipal bonds were issued by the Istria County in 1995, and the last by the City of Split in 2008.

There are currently no municipal bonds listed on the secondary market in Croatia. While they were present on the Zagreb Stock Exchange, most of the issued municipal bonds were either poorly traded or not traded at all, leading to the conclusion that investors generally held municipal bonds till maturity. The reason for this may be two-sided. The lack of an active secondary market due to insufficient demand for municipal bonds adversely affects the price and liquidity of the bond. Therefore, investors are in a situation where municipal bonds cannot be sold easily. On the other hand, almost all municipal bond issues in Croatia so far have been financially justified, which implies that even in the shallow and underdeveloped financial market they represented a profitable investment that no one wanted to sell before maturity. But this is a topic for another study. Local self-government units have shown a will to access the capital market, but the central government has restricted their borrowing and stopped the initiative. The existing system of financing capital projects of local self-government units by bank loans does not allow long-term development, narrows the planning horizon and increases the cost of financing. The solution is to re-establish and create an active municipal bond market. It is essential to encourage closer cooperation between local governments and their cooperation with the central government in order to create a stable macroeconomic environment and develop a financial market with appropriate infrastructure, legislation, financial institutions and well-informed investors. Informing the general public could also mobilize a large number of individual investors at the local level who would be willing to invest their surplus funds in the development of the local community. The experience of the Scandinavian municipal bond management model could also be used.

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## DIGITAL ADAPTATION OF CROATIAN COMICS

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### ABSTRACT

*The theme of this paper is to examine the interest in preserving the rich domestic heritage of comics on the Croatian market through digital screening. Based on the experience of business models such as Marvel Studios and Netflix, the available resources of Croatian comics could be offered in the form of digital screening. The research conducted confirms that the interest for adaptation of Croatian comics for digital screening exists among providers and users, and indicates that current obstacles for digital screening are significantly smaller than the value of preserving the heritage of Croatian comics through digitalization. The results obtained demonstrate there is some potential for a digital platform of Croatian comics and indicate a need for further preparations for its realization, including changing how the adaptation of Croatian comics is perceived by those who could produce it, as well as by those who would use it. This would not only increase the availability of Croatian comics to a wider audience, but also potentially enable their implementation into video games or mobile applications, thus further enhancing the value of Croatia's cultural and artistic heritage.*

**Keywords:** *Croatian comics, Digitalization, Film adaptations, Multimedia*

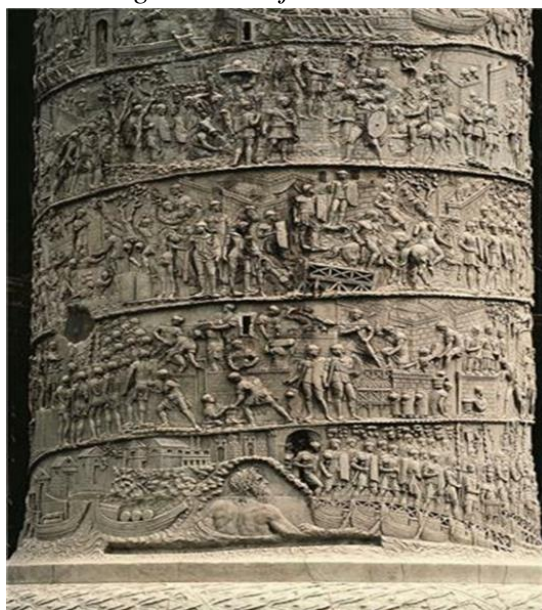
### 1. INTRODUCTION

In the process of digital adaptation of almost any content, Croatian comics, a valuable form of artistic expression has unjustly been left out. Its basic form, composed of images and text, could be enriched through digitalization with movement, sound, even interactive options, thus bringing it to the modern day and age and making it more interesting to wider audiences. With the dawn of digital media, the circulation of printed media has been decreasing. If the heritage of Croatian comics is to be preserved, it too needs to evolve, i.e. be transformed through digital media following the business models resembling those of Marvel Studios and Netflix. Marvel Studios adapts comic books into animated and feature films. Netflix is a continuously updated digital platform for broadcasting digital content, recently even offering its users the option to interact with the screenplay of the series being watched. This gives the users an option to select one of the provided directions for the story and decide which version they want to see. In its offering, Netflix has several animated movies in which users can select the direction for a certain part of the story. Equally important is the growing trend of creating video games based on comics, such as Spiderman, Batman, X-Men. Croatian comics art has a history and recognizable character and is a valuable form of artistic expression within Croatian heritage that should not be neglected. Digital adaptation would help it find its place through a new medium, which is acceptable for today's and future generations. The purpose of this research was to determine the interest in the market for preserving the rich heritage of Croatian comics through film adaptation, as well as to ascertain the interest of the audience on the one hand and the abilities of providers in the process of digital film adaptation on the other. The results obtained through the research could change the current perception of Croatian comics as strictly printed media and show that there is interest in digital film adaptation not only among the audiences, but among producers as well.

### 1.1. About comics

Comics as we now know first appeared in the late 19th century. “It might be pretentious to connect comics to the very beginnings of artistic expression, but looking at the first cave drawings, it could be concluded that was the beginning of comics.” [1] Many chronological studies has a base at prehistory of comics on the paintings with hieroglyphs in Egyptian tombs sequentially depicting past events and myths. The monuments of Assyrian rulers, with scenes presented in the form of “continuous strips,” also contain sequential images depicting an event. Ancient Greek artefacts, as well as parts of temples, and later on Roman reliefs and obelisks often use a similar method of narration through series of chronological images. Trajan's Column, with a spiral strip of reliefs that chronologically depict the most important events of the emperor's reign, is one of the most significant examples from Ancient Rome. [2]

*Figure 1: Trajan's Column*



Source: <http://proleksis.lzmk.hr/15768/>, accessed 07/24/2019

The simplest definition of comics is that it is used to express a narrative through images. Scott McCloud, in his book “Understanding Comics,” defines comics as “juxtaposed pictorial and other images in deliberate sequence, intended to convey information and/or to produce an aesthetic response in the viewer.” [3] Comics is also a combination of complex themes, shots, image and text relationships, and lines, surfaces and colors that are used to visualize content, which becomes clear only when followed closely. [4] According to the definition, its elements, acceptance and prevalence, comics is somewhere between the art of painting and literature, and uses the form of film. Just like the works of literature, comics have a narrative. Even when there are no textual elements, the viewers are left with the possibility to visualize and experience certain emotions through their imagination. Since they are made of images, this gives comics the artistic value of painting. Comics “uses the method of editing, deliberate and expressive connection of scenes and sequences,” thus applying the film form. [2] Back in 1964 in “Lettres et Médecins,” French critic Claude Beylie stated that comics and graphic novels are the ninth art<sup>1</sup>. [5] Regardless of its artistic significance and popularity, comics is yet to find its place within art and culture and the well-deserved confirmation as the ninth art.

<sup>1</sup> Forms of art: sculpture, painting, architecture, film, dancing, music, acting, literature and comics. Source: [https://www.moje-instrukcije.com/index.php?option=com\\_content&view=article&id=3638:umjetnost-i-vrste-umjetnosti&catid=67&Itemid=142](https://www.moje-instrukcije.com/index.php?option=com_content&view=article&id=3638:umjetnost-i-vrste-umjetnosti&catid=67&Itemid=142), accessed on 8/4/2019

## 1.2. Croatian comics as part of the european comics tradition

Comics has developed within three major artistic traditions and markets: Anglo-American (USA and Great Britain), European (French-Belgian tradition, i.e. bande dessinée<sup>2</sup>) and Japanese (i.e. manga<sup>3</sup>). [6] After the main characteristics of comics were defined in the US and the art form gained in popularity, original European comics tradition developed in Europe between the two world wars. The numerous European comic books include those that were popular in our market as well. These were “The Smurfs” (Pierre Culliford), “Redbeard” (Victor Hubinon), “Lucky Luke” (René Goscinny & Morris), “Alan Ford” (Magnus & Bunker), as well as “Zagor”, “Martin Mystère” and “Dylan Dog” (Sergio Bonelli). [6] The first comic strip to be published in Croatia was in 1923. It was a translated and adapted version of the American Sunday comics about Winnie Winkle and her brother Perry, which delighted readers with its lively content, mild humor and particularly attractive visual appearance. [1] The comic strip “Maks i Maksić” followed soon after in 1925, with the first Croatian comic strip characters. It was published continuously until 1934, when replaced with a developed and realistic comic strip series “Vjerenica mača,” illustrated by Andrija Maurović and written by Krešimir Kovačić. [1] Maurović’s sharp contoured drawings, impeccable black-and-white contrasts and extraordinary, almost film-like visual dynamics became the foundation for the development of Croatian comics. The success of “Vjerenica mača” encouraged the publishers in 1935 to start publishing “Oklo,” Croatia’s first weekly magazine with comic art. Maurović continued creating excellent comics, such as “Podzemna carica,” “Ljubavnica s Marsa,” “Trojica u mraku,” “Seoba Hrvata,” etc., published in contemporary Croatian newspapers and magazines. [7] In 1943, the Neugebauer brothers started the “Zabavnik” weekly, in which they published comics masterpieces such as “Patuljak Nosko,” “Gladni Kralj,” and “Mali Muk,” representing funny comics with great aesthetic and ethic value, almost at the Disney comics factory level. [8] After World War II comics in Croatia was denounced as “a capitalist product intended to dull the masses.” In 1953, the moving pictures company “Zagreb film” was founded with Fadil Hadžić, artistic editor of the “Kerempuh” theater. “Zagreb film” produced the first professional cartoon “Veliki miting” by Vlado Delač and Borivoj Dovniković, who are considered the second important generation of Croatian comics (after Maurović and the Neugebauer brothers). [9] The “Plavi vjesnik” magazine, released from 1954, marked the golden age of Croatian comics [6] in which a great new group of authors published more than 100 comic strip stories. [10] The generations that followed successfully built significant international careers. That was the period of the Zagreb school of animated films, which gathered excellent artists such as Vladimir Kristl, Zlatko Bourek, Dušan Vukotić, Joško Marušić and many others. [11] In the early 1990s, the number of comics on newsstands decreased, the readers dispersed and lost the habit of reading comics. Today, comics are available in libraries, can be bought in bookstores, fairs and festivals, and there are several specialized comic book stores.

## 1.3. Digital technology and multimedia

The appearance of comics in newspapers in 1895 greatly increased the popularity of newspapers. [12] Approximately a 100 years later, with the availability of plethora of information on the internet, all aspects of the world started changing. Almost all aspects of modern life today have been transformed through digital technology. Travel, business, shopping, entertainment, and communication are only some of the areas that have gone through digital revolution in the recent decades. [13] Internet has become the all-present and dominant medium that creates completely new needs and habits in its users, thus putting new challenges in front of media producers to provide relevant and attractive content. Media content is consumed quickly, and the amount of time audiences spend with the content is questionable.

<sup>2</sup> Literally, “drawn strips.”

<sup>3</sup> Literally, “moving strip.”

The number of traditional television viewers is steadily decreasing, while there is an upward trend in video-on-demand content and increasing popularity of streaming services such as Netflix and Amazon Prime Video. [14] Sophisticated habits and expectations of this digital audience make it more powerful and complex than the traditional audience does. The change in the way media content is consumed brings about changes in other media as well. People can watch what they want when they want it and on the platform of their own choosing, while someone else ensures they are provided with interesting content. This is a new level of comfort, which enables further growth of affordable digital services with the 5G network. Social media has also been changing the way in which we consume information, just as the portals have been changing the experience and availability of the world around us. Newspapers have given way to the internet, while e-books have increasingly been replacing printed volumes. Until recently, comics was considered a dying art. Primarily thanks to expensive Hollywood adaptations, however, many comic book heroes have been given a new life. [15] The graphics style and even the heroes in some of the globally popular computer games have directly been borrowed from comics. Graphically demanding and almost realistic animation is present even in games for our smartphones. Digital adaptation can also be applied to the works of culture and art, thus making them available to a broader audience. Trying to bring to light the somewhat forgotten value of Croatian comics and animated films, the Museum of Contemporary Art put up a multimedia exhibition in early 2020 called "From Imagination to Animation: Six Decades of Zagreb Film." The exhibition presents the 60-year-old history of the Zagreb school of animation "consisting of more than 800 animated films, 600 documentaries and 14 feature films that received more than 500 awards all together." [11] Despite digitalization being a long, expensive and complex process, Zlatko Grgić's "Professor Balthazar," Dušan Vukotić's Academy Award winning "The Substitute," Boris Kolar's "Vau-Vau" and Zlatko Bourek's "Mačka" have been digitalized.

## **2. FORMULATION OF THE RESEARCH PROBLEM**

Research was conducted using a combination of qualitative and quantitative methods, with interview and a web-survey as instruments. The sample for the qualitative part with semi-structured guidelines prepared in advance consisted of 19 interviewees (representatives of public and commercial television, and independent production companies). Transcripts were created from recorded interviews, with the approval of each interviewee, for further analysis of the results. These transcripts were used to find similarities and differences between the interviewees' statements for deeper and more thorough analysis of the subject matter. The survey part consisted of 153 subjects who answered a survey through Facebook, and the results were analyzed using descriptive statistics methods. The research was conducted to determine whether there was sufficient interest among potential providers and consumers for film adaptation of Croatian comics and to ascertain the level of current obstacles to Croatian comics adaptation compared to the value of preserving the heritage of Croatian comics. The results may also be used to change the current perception of digital adaptation for those who are capable of producing it, as well as those who might consume it. They can also be used for future research in order to produce additional results regarding comics, film or another form of digitalization of cultural works, art, or related fields.

## **3. RESEARCH RESULTS**

As we live in the world of supply and demand, it is natural to assume that providers in this case would want to know how much interest exists for digital adaptation of Croatian comics, and the consumers would want to know what would be offered to them. As many as 82% of consumers stated they would read Croatian comics if they were available in a digital form. 80% would be interested in watching comics as animated films, while 71% would like to see a movie based

on Croatian comics characters. Most potential providers firmly believe that Croatian comics should be adapted for film.

*“I personally believe that film adaptation of comics is good for artistic valorization of audiovisual arts.”*

There are also those who believe that digital adaptation would spark additional interest in Croatian comics.

*“There is a lack of media which would draw the interest of more consumers...”*

*“...Comics adapted in a way that is available and attractive to everyone would reach a wider audience...”*

Furthermore, 70% of potential consumers declared they were certain that adaptation of Croatian comics would be a very valuable contribution to the overall awareness about Croatian heritage, while 65% of them believe that adaptation would spark a significant increase of interest in Croatian comics even outside of Croatia. Research participants named numerous platforms, web pages and portals used for watching screened content. These include Netflix and HRTi, which offer a wide range of content, as well as specialized sites such as Strip Utopija or AnimeFreak.Tv. Regardless of their familiarity and the level of use of various digital media, the results showed that 52% of participants used digital platforms to watch digital content. On the other hand, potential providers also showed great interest in digital platforms.

*“Every day, HRTi platform sees between 300 and 500 thousand visitors, with somewhere between 60 and 100 thousand registered users.”*

*“There is great interest in the RTLplay digital platform, which has about 500 thousand users.”*  
*73% of participants read Marvel's comics, and as many as 70% watch their movie adaptations.*

Providers recognize the way new technologies influence their audiences, keep track of the new technologies and are familiar with business models such as Netflix and Marvel Studios.

*“Not only are their habits changing immensely, but the entire audience has changed.”*

*“Marvel adapted to the new era and decided to transfer its characters to a new medium, either for profit or the fact that their audience keeps moving towards motion pictures as well.”*

Most potential providers are open to the idea of digital adaptation of Croatian comics.

*“We will definitely include that in our offering, but we don't know yet in what form and in what way.”*

The providers are aware of obstacles such as copyright, lack of professionals, and the financial burden.

*“Copyright is the first issue to address.”*

*The success of this project depends on the participation of quality professionals (animators, writers and directors) and on sufficient funding.”*

*“If we lack animators, we can hire some from the neighboring countries.”*

The interest of potential consumers in digital adaptation of Croatian comics is also evident from the result, since 69% would watch comics if they were offered as pay-per-view model.

#### **4. DISCUSSION**

Research results were surprisingly positive, considering the interest expressed in digital adaptation of Croatian comics by both providers, but even more by potential consumers. Providers are primarily interested in market size of consumers of the content, while the consumers themselves are more interested in the type and quality of content offered. Most of the potential providers and consumers believe that Croatian comics should be digitally adapted, since this might instigate interest in Croatian comics, which has been on the downward spiral in recent years. Audiences have increasingly moved towards digital platforms, which also influences their comics reading habits. Both consumers and providers recognize that the adaptation of Croatian comics through digital platforms would be a suitable channel to additionally promote the Croatian cultural heritage in general. Digital comics providers in Croatia are familiar with the business models used by Marvel Studios and Netflix, and most of potential consumers already use their services. It is therefore not surprising that most potential providers would be willing to work on digital adaptation of Croatian comics, as well as that potential consumers would be willing to pay to watch this content.

#### **5. CONCLUSION**

Besides the traditional ones, digital techniques can also be used to promote the rich Croatian comics heritage and its recognizable style in order to ensure that the artform receives its well-deserved place in the digital world. There is an interest in digital comics in Croatia among both providers and consumers. Research participants have recognized digital adaptation of Croatian comics as a good idea to enrich the excellent materials and make the rich heritage accessible to a larger audience. Potential consumers are not only Croatian comics fans, but also fans of Marvel's comics and movies. They often use digital platforms, which is another reason why Croatian comics deserves to be screened digitally. The increasing application of digital technologies constantly places new demands in front of the media, and both commercial and public television networks are trying to adapt. Some of them (HRT and RTL) already have digital platforms and keep expanding the content that they offer. Current obstacles to the digital adaptation of Croatian comics are minor when compared to the value that would be created by preserving this heritage. Most notably, the obstacles include copyright issues, necessary funding and lack of professionals who would work on creating this digital content. In order to protect copyright, it would be necessary to obtain consent from comics authors before working on digitalization. This should not be a great obstacle, since Croatia has a rich body of excellent materials, and the authors are interested in seeing their content revived. Insufficient funding could be compensated through public funding, participation of cultural institutions, applying for EU grants, and a well thought of marketing approach. Coproduction, as well as the engagement of young and unestablished visual artists with advanced digital competencies would ensure high quality, which might be a way to address the important obstacle of lacking professionals. Before starting any of these activities, it would be necessary to raise awareness about the importance of preserving Croatian comics as a valuable form of artistic expression. Digital adaptation of Croatian comics could also be a good opportunity to further promote Croatia as a country with tradition, culture and heritage worth presenting to the world. With an aim of preserving the heritage and the cultural value of Croatian comics, a business model for its digital adaptation should be developed, which would also enable implementation into video games or mobile applications, thus increasing the value of Croatian cultural and artistic heritage and making it globally available.

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## LOW-CARBON ECONOMY: PAST, PRESENT AND FUTURE IMPLICATIONS OF CARBON ACCOUNTING

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### ABSTRACT

*Achieving sustainable development and transition to a low-carbon economy are some of the major goals of the 21st century. As an emerging economic model, the low-carbon economy provides valuable solutions for tackling the inevitable climate change on a global scale. Companies and countries are trading in carbon emissions on carbon markets, and there is a need to recognise and measure carbon emissions, from both the financial and accounting perspective. Carbon accounting should play a significant role in a low-carbon economy; however, this is not the case at the moment. According to previous research, there are many unresolved issues in carbon accounting, particularly regarding carbon credits as marketable securities. Polluters must submit carbon credits to the competent state authority to meet their obligation arising from the GHG emissions they have generated. Carbon accounting can be seen as a wide range of different practices, and it means different things to different groups of people. It helps stakeholders in making proper business decisions considering the reporting and accounting challenges. There are two categories of carbon accounting: physical and financial. Physical carbon accounting quantifies physical amounts of greenhouse gas emissions to the atmosphere, while financial carbon accounting measures the financial market value of carbon emissions. This paper aims to provide a broader perspective and theoretical support for research on the accounting aspect of a low-carbon economy. It focuses on past and present trends, challenges, and changes in carbon accounting. The main objective is to provide guidance, both for shareholders and stakeholders, in the form of business (and legal) guidance.*  
**Keywords:** Carbon accounting, Carbon credits, Carbon emissions (GHG emissions), Low-carbon economy

### 1. INTRODUCTION

It is an undeniable fact that climate change is the main environmental challenge of the 21st century. Its effects are more and more visible in many phenomena and sectors. Predictions for the future warn that climate change and its impacts will only be more noticeable. Although this century is a 'period of great change', this is mostly not reflected in the behaviour of individuals, companies and states. To effectively address climate change, the recommendations are to change the attitude of individuals, companies and the state towards transition to the low-carbon economy, as well as to introduce conceptual frameworks that place the environment within national regulations (Weller, 2012).

The key challenge for the green state - the state of the 21st century - is to decarbonise the economy and achieve substantial reductions in carbon emissions (GHG emissions) in all sectors, in order to reduce global warming (Hildingsson et al., 2018). In addition, Weller (2012) states that the transition to the low-carbon economy is a strategic project beneficial to any country, because in this way crisis periods of the relationship between capitalism and nature can be avoided. According to Ormond (2020), the shifts are minimal. The integration of climate change mitigation aspects into accounting is often referred to as carbon accounting (KPMG, 2008; Hespenheide et al., 2010, Stechemesser & Guenther, 2012). In the market economy, carbon emissions quantity and carbon emissions right become a 'scarce commodity', which creates value (Zhang, 2011; Mance & Škalamera-Alilović, 2013). Carbon emissions trading has developed rapidly and therefore the issues of carbon emissions and carbon accounting within the framework of the Kyoto Protocol emissions have become the focus of attention of many scientists, researchers and practitioners (Zhang, 2011). This paper examines in particular the accounting aspect of carbon emissions trading. Carbon trading is the practice of buying and selling permits and credits to emit carbon dioxide and the trade is carried out through carbon markets. As stated by Mance and Škalamera-Alilović, accounting evaluation, recognition and recording/reporting of carbon emissions was one of the most unresolved accounting issues in 2013. The issue is still unresolved today, but with time, it has become even more relevant. According to Mance and Škalamera-Alilović (2013), EU emission unit allowances are marketable securities, which polluters covered by the European Union Emissions Trading System (EU ETS) are obliged to submit to the competent state body to meet their obligations due to GHG emissions they have generated. What is traded in carbon trading is not actual carbon, but the right to emit CO<sub>2</sub>. The basic unit is one metric tonne of CO<sub>2</sub> per year (Ratnatunga, 2007).

## 2. THEORETICAL BACKGROUND AND KEY TERMS

In the 21st century, low carbon use is without doubt an integral element of development. There is no precise definition or conceptualisation of the low-carbon economy as such; it has become a commonly used term among policy makers and academicians. Also, the scale and complexity of the social and economic processes which drive greenhouse gas emissions make it difficult to envisage with any great certainty how a transition to a low carbon future will be achieved within a short timeframe (Vickers et. al, 2009:8). Given that carbon accounting is part of the low-carbon economy, and considering the above, the definitions of related terms are given below. The first of the terms that needs to be clarified is decarbonisation. As Hildingsson et al. (2018) state, it is a process of eliminating/reducing fossil fuel use in the economy, which includes various policies and political processes that promote the economic and social benefits of carbon reduction. The goal of decarbonisation is to reduce the dependence of 21st century society on fossil fuels. This process involves fundamental structural changes and transformations. Zhang (2011) discusses the notion of the low-carbon economy and states that the core of such an emerging economy is the promotion of energy efficiency, energy saving and renewable energy technologies through the development and innovation of institutional frameworks and market-based policies. This model is an effective way and an inevitable choice to address the current problem of climate change to reduce greenhouse gas emissions. As Mallett (2015) states, low carbon technologies include the technologies that reduce the greenhouse gas emissions in their production. In addition to the above, Urban, Mitchell & Villanueva (2011) mention low carbon development (LCD): "The key characteristics of LCD, as described by the UK's Department for International Development (DFID) are: (1) improving energy efficiency and using low-carbon energy sources, (2) protecting and promoting carbon sinks, (3) promoting low- or zero-carbon technologies and business models and (4) introducing policies which discourage carbon-intensive practices" (Urban, Mitchell & Villanueva,

2011:260; in DFID, 2009, p. 58). Also, “LCD aims for climate-friendly economic and social development, which is important for both developed and developing countries” (Urban, Mitchell & Villanueva, 2011:260; in DFID, 2009, p. 58). Rich countries and growing economies fit LCD into their reduction of greenhouse gas emissions, while in poor countries LCD serves only as a possibility that can be used (renewable energy sources, green jobs, etc.). Poor countries are geared towards reducing poverty, and expensive switching to new energy sources is often not an option (Lema et al., 2015). Mulugetta and Urban (2010) observe that there is no internationally recognised definition of LCD, precisely because of the wide range of economic and social programmes that are differently targeted in each country. What they point out as a direction towards a specific definition of LCD is the depiction of ‘less carbon use for growth’ from DFID’s White Paper (2009). Climate mitigation policies are important in defining and applying LCD. Lema et al. (2015) define LCD from a narrow and broad perspective. According to the former, “LCD is the process of transforming the current fossil fuel-based economic system, particularly the energy system, towards the goal of CO<sub>2</sub> neutrality (Lema et al., 2015:174)” while “a broad view takes into consideration the linkages between the transformation of the fossil fuel-based system and multiple planetary boundaries, that is, between LCD and environmental sustainability (Altenburg and Pegels, 2012; in Lema et al., 2015:174).” Lima et al. (2015) also note that the concept of LCD is not just a matter of climate change mitigation and international development, but also involves synergies between the two - LCD is a strategy that mitigates carbon emissions to avoid dangerous climate change, while achieving social and economic development. Andersen and Johnson (2015: 279-280) state that the development of LCD (as any structural change) depends on the interactions between institutional, organisational and technical development. Moreover, they identify four key characteristics of LCD: 1. LCD is a global challenge, 2. LCD entails structural changes of unprecedented proportions, 3. LCD (and the transition to LCD) has a short deadline due to climate change, 4. the second and third points suggest that the transition must be accelerated by public policy. The point of the above is to reduce dependence on fossil fuels through radical changes in all spheres, which requires high capital investment and deep, radical changes in policy and culture. Given the accelerated development of technology, excessive use of fossil fuels must be monitored. Consequently, there must be national as well as global regulations for their use. These activities can be carried out through carbon markets, carbon taxation, carbon accounting, or simply, carbon regulations. Carbon markets have been developed to regulate and reduce emissions of carbon, and since the Kyoto Protocol in 1997 the goal has been the transition to a low-carbon economy lifestyle. Carbon markets are a new type of institution, designed to manage and reduce CO<sub>2</sub> emissions locally and globally (Spaargaren & Mol, 2013). The Kyoto Protocol is built on the premise that, from the point of view of global warming, it does not matter where the emission occurred geographically, i.e. where the emission was reduced. It establishes a system that enables the reduction of emissions at minimal cost, and at the same time, there is a transfer of technology and financial resources to underdeveloped countries where the application of measures costs the least (MZOE). The Kyoto Protocol contains legally binding commitments to limit or reduce the emissions of six greenhouse gases or groups of gases (Jonas et al., 1999). Stephan and Paterson (2012) see carbon markets as a broader ecological modernisation process designed to decarbonise the global economy. Spaargaren and Mol (2013) define carbon markets as global institutions with potential for regulating climate change and point out that they have received criticism. Specifically, carbon markets developed in the first decade of this century are (still) economically unstable, do not live up to environmental promises and bring with them social risks and inequalities (Spaargaren & Mol, 2013:190). The economic costs of the activities of the carbon and low-carbon economy need to be recorded, that is, accounted for. Given that the low-carbon market is relatively unregulated and the existing carbon market does not require the same start-up and fixed costs,

the total cost of transitioning to a low-carbon economy is not the same given investment needs, so high-carbon technologies and low-carbon technologies differ not only in their initial capital needs but also in fixed operating costs. (Fankhauser et al., 2016). About 30 years ago, according to Andersen (2019), the idea for carbon emissions taxation was born, with the aim of halting climate change. Scientists then called for urgent measures to curb emissions, including a 'tax on fossil fuel consumption in industrialised countries' as a fundraising measure to support developing countries. Thisted and Thisted (2019) state there are two different ways of pricing carbon: carbon taxes and emission trading schemes (ETS). A carbon tax is a fee imposed by governments for burning carbon-based fuels, such as coal, oil and gas. Under a carbon tax, the government determines the price of carbon directly through the tax rate, while the market determines the amount of emissions. In the case of ETS, the government determines the quantity of emissions, while the market determines the price. In establishing the ETS, governments set a general upper limit on emission levels before issuing a limited number of emission permits to programme participants. The lack of allowances and the establishment of a trading market for these products create the price of allowances – i.e. the price of carbon, encouraging participants to reduce their emissions (Thisted & Thisted, 2019: 805). The key features of the emissions trading system, according to Mance & Škalamera-Alilović (2013) are:

- It is based on the principle of allocative efficiency, which according to the tenets of economic theories developed by R. H. Coase (1960), H. Demsetz (1967), J.H. Dales (1968) and M. Weitzmann (1974) creates a new form of assets and a new market, and allows companies to compete in reducing emissions in an allocatively efficient way;
- Greenhouse gas emission caps are prescribed, and credits in the amount equivalent to emissions into the environment are offered on the market;
- Companies that are not able to reduce greenhouse gas emissions in any other way, buy carbon credits (an alternative to the failed attempt at introducing a single tax on environmental emissions) and present them to regulatory authorities if necessary;
- Gases are denominated in carbon dioxide (CO<sub>2</sub>) equivalents according to conversion formulas which are based on the expected negative environmental impact of one metric ton of CO<sub>2</sub>;
- With a carbon market and clear rules, the system allows for full utilisation of market allocation mechanisms and effective compliance with international greenhouse gas emission reduction commitments.

As stated by Bowen and Wittneben (2011), carbon markets encompass a set of technical issues about addressing market failures through the inclusion of externalities, focusing on the costs and benefits of various instruments that include environmental costs. The evolution of carbon accounting gives the opportunity to observe how the interests, expectations and goals of senior actors influence the design of a new market. Carbon accounting is a relatively new concept related to the aforementioned global climate change and problems. Many scientists and researchers use it in various fields, and it is found particularly often in discussions of the integration of aspect of climate into accounting; however, there is no consistent definition (Stechemesser & Guenther, 2012). Therefore, in different contexts and in different circles, this term is understood differently. According to Milne et al. (2011), carbon accounting, for political negotiators implies the rules for comparing emissions and removals as reported with commitments at a national level; to practitioners in the United Nations Clean Development Mechanism (CDM), the market involves the measurement of reductions in emissions relative to a hypothetical baseline, and other processes associated with the subsequent creation of a new tradable commodity: a carbon credit; to the International Accounting Standards Board it concerns the accounting of tradable emission rights and obligations arising under emissions trading schemes; to the increasing numbers of companies reporting to the Carbon Disclosure

Project, The Climate Registry or other similar schemes, it involves the measurement and disclosure of greenhouse gas emissions for which companies accept varying degrees of responsibility (Kolk et al., 2008; PricewaterhouseCoopers, 2009; WBCSD and WRI, 2004; Defra, 2009b in Milne et al., 2011:978-979). As Ascui and Lovell (2012:49) state, carbon accounting is a generic term, used as a provisional marker for something rather amorphous and contested; with the objective being to investigate the ways in which jurisdictional competence is being framed and negotiated by different communities. The same authors provide an overview of terms presented in Figure 1, which, when combined, give a definition of the various activities included in carbon accounting.

*Figure 1: Definition of carbon accounting from Ascui and Lovell (2011:980)*

estimation, calculation, measurement, monitoring, reporting, validation, verification, auditing,	of	carbon, carbon dioxide, greenhouse gas	emissions to the atmosphere, removals from the atmosphere, emission rights, emission obligations, emission reductions, legal or financial instruments linked to the above, trades/transactions of any of the above, impacts on climate change, impacts from climate change,	at	global, national, sub-national, regional, civic, organisational, corporate, project, installation, event, product, supply chain	level; for	mandatory, voluntary	research, compliance, reporting, disclosure, benchmarking, auditing, information, marketing, or other,	purposes
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*Source: Ascui and Lovell, 2012*

Furthermore, Bowen and Wittneben (2011:1025) define carbon accounting as the measurement of carbon emissions, the comparison of these data and their communication, both within and between companies. Carbon accounting has many similarities with other accounting systems: it is a quantitative record of a particular unit that is established in accordance with the company's business and communicated inside and outside the company. However, carbon accounting also differs from other accounting systems in that it is directly related to mandatory or voluntary schemes, and in that the value of a recorded unit is not monetary unless converted through the price of carbon in the commodity market. The carbon accounting system is also unusual in that it is developed in the context of innovation in the development of consensus on scientific facts and with the engagement of experts from various unconventional sources. In addition, Bowen and Wittneben (2011:1026) note that carbon accounting systems have to evolve on three levels: the scientific knowledge of how to recognise and count carbon emissions; the accounting effort to collect and record this information; and the policy arena of devising accountability systems that use and compare the collected data. Each one of these arenas constitutes an organisational field. Carbon accounting will become increasingly important as new emission reduction regimes are established and linked to existing ones. Over time, more and more attention will be paid to carbon budgeting - which must be measured, reported and conveyed (Bowen & Wittneben, 2011). In addition, carbon accounting in everyday life allows the redistribution of the problem of environmental participation (Marres, 2011). According to Schaltegger and Csutora (2012), considering the accounting systems and tools, corporate carbon accounting may be the most well-known application of sustainability accounting, given that it is a pragmatic goal-oriented approach to providing useful information to different managers in making their decisions.

### 3. CARBON EMISSIONS - ACCOUNTING PERSPECTIVE

While the issue of carbon emissions is undoubtedly of global importance, the focus in this paper is on the EU Member States, in particular the Republic of Croatia, as a full member since 1 July 2013. The trading in carbon credits among EU Member States began much earlier, on 1 January 2005, with an aim to reduce greenhouse gas emissions. The European Union Emission Trading Scheme (EU ETS) is the world's first and largest multi-national, greenhouse gas emissions trading scheme in the world (Jones, et al., 2007). The EU ETS encourages the development of emissions trading in other countries and regions and aims to link the EU ETS with other compatible systems (European Commission). A main document prescribing obligations, rights and all key determinants of emissions trading in Croatia has been in force as of the date of its accession to the EU and is still in effect today under the name National allocation plan for greenhouse gas emission allowances in the Republic of Croatia (hereinafter referred to as the Allocation plan). This document was adopted on 26 June 2009 by the Government of the Republic of Croatia (Article 47, paragraph 1 of the Air Protection Act, OG 178/2004 and 60/2008). Its main purpose is to establish a system for monitoring emissions by companies covered, verification of emission data, and annual emission reporting, and to set up an emissions trading system. It defines all key data relating to the carbon credit trading, for example, the total amount of allowances within a certain period, the data on previous emissions, annual emission allowances allocated to an installation, estimation of future emissions, determining new entrant reserves, the use of the Kyoto Protocol mechanisms, etc. (OG 76/2009). Emission allowances are distributed across four sectors and their installations, and the selection is based on circumstances pertinent to the Republic of Croatia. In Croatia, installations are categorised the following sectors: the energy sector, which has recorded the highest growth in emissions; mineral oil refineries; cement and lime production installations and other (smaller) installations. The development of the Allocation plan preceded the establishment of the greenhouse gas emissions trading system (EU ETS). The first (trial) trading period in the Republic of Croatia lasted from 1 January 2005 to 31 December 2007 (preparation for the international greenhouse gas emissions trading mechanism in accordance with the Kyoto Protocol). The second trading period started in January 2008 and lasted for 5 years (coinciding with the first binding period of the Kyoto Protocol). For the period 2013-2020, at the EU level, an allowance has been set for all installations included in the trading system, which is 21% lower than the amount of verified emissions of these installations in 2005. Various aspects of the low-carbon economy have been examined in international and Croatian research literature. However, as far as the main subject of this paper is concerned, i.e. carbon accounting, the situation is significantly different in that in the previous research, the concept has been inadequately studied, in both practical and empirical terms. Given the extreme complexity and extent of the topic, a concise overview of the extant research literature is given in this paper, relating to carbon accounting in the context of the low-carbon economy. Specifically, the following findings and conclusions refer also to the recognition, measurement and evaluation of carbon emissions in the accounting context and within the framework of International Financial Reporting Standards (IFRS). Economic perspective of environmental accounting is considered as the starting point for carbon accounting, and it could be defined, according to Schaltegger and Burritt (2000) as a subset of accounting that deals with activities, methods and systems, recording, analysis and reporting of environmentally induced financial impacts and ecological impacts of a defined economic system. Environmental accounting can be observed from two aspects: the non-monetary and monetary. Stechemesser & Guenther (2012) give the most comprehensive interdisciplinary and systematic review of extant literature and the definition of the concept of carbon accounting. In their work, they investigated 129 literature sources, which they divided into four sections: carbon accounting at the national scale, at the project scale, at the organisational scale, and at the product scale (at each scale, they differentiated between non-

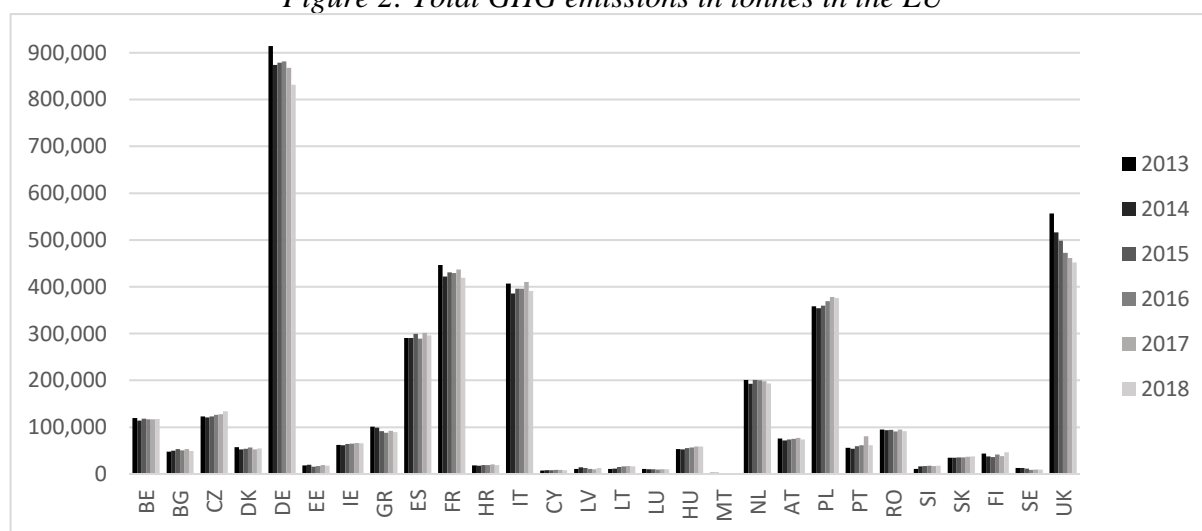
monetary and monetary aspects). The authors did not arrive at a single definition of carbon accounting that would include all observed scales (at the national and the project scale the focus is on the non-monetary accounting of carbon emissions, while on the project and organisational scale, both non-monetary and monetary aspects are considered to be important). Therefore, they delivered separate definitions on each scale and provided a general definition: “Carbon accounting comprises the recognition, the non-monetary and monetary evaluation and the monitoring of greenhouse gas emissions on all levels of the value chain and the recognition, evaluation and monitoring of the effects of these emissions on the carbon cycle of ecosystems” (Stechemesser & Guenther, 2012:36). At the organisational scale, Stechemesser & Guenther (2012) differentiate between two types of environmental accounting: management accounting and financial accounting, following Ratnatunga, who differentiates between carbon financial accounting (Ratnatunga, 2007) and carbon management accounting (Ratnatunga, 2008). In most countries, from an accounting point of view, the key problem is the lack of appropriate accounting standard for regulating carbon emissions, i.e. accounting measurement, recognition, reporting would be standardised and enabled. In the Republic of Croatia, the obligation to account for emission rights has been non-existent since the withdrawal of Interpretation no. 3 of the Interpretations Committee of International Financial Reporting Standards: Emission Rights. (Mance and Škalamera-Alilović, 2013). The authors do not agree on how to recognise and measure carbon emissions and these procedures are not standardised. Ratnatunga (2007) claims that it is generally agreed that a carbon credit is a new category of an intangible asset that should be measured at fair value with changes in value recognised in profit or loss. Depending on the business, it could be argued that this category of intangible assets can be accounted in three ways: as items of inventory if the organisation is set up to trade in ‘allowances’; as financial assets and measuring them at fair value with gains and losses recognised in income, and as derivatives by accounting for them as a cash flow hedge. In summary, the author writes that the position of the financial accounting profession is by no means clear, although there seems to be some agreement that once allowances are issued, a company should recognise them as a new asset on the balance sheet. As actual emissions occur a liability should be recognised and changes in the market price of allowance (i.e., gains and losses on allowances) are to be recognised in the profit and loss account. Companies also need to consider issues such as fair value accounting and impairment of assets. According to Zhang (2011), carbon emissions should be recognised as intangible asset, respectively, at historical cost and fair value of the mixed measurement model for the initial measurement and subsequent measurement. The initial recognition costs of carbon emissions under the historical cost principle can be confirmed. Subsequent measurement should be amortised with appropriate method considering market value, total cost, salvage value and duration. Finally, gains or losses on disposal of carbon emissions should be recognised and measured as well. In the Republic of Croatia, companies generally apply one of the following carbon accounting methodologies (Mance and Škalamera-Alilović, 2013: 29): 1. according to the withdrawn IFRIC Interpretation 3; 2. according to IAS 39: Financial Instruments - Recognition and Measurement (paragraphs 85-101, hedge accounting); 3. in accordance with IFRS 13 - Fair Value Measurement; 4. according to IAS 2 - Inventories. According to the withdrawn IFRIC Interpretation 3, this system creates: the category of assets at the initial recognition of the emission allowances; state grant (when allowances are issued free of charge or for less than their fair value); an obligation to deliver allowances by creating emissions into the environment, where net assets or net liabilities are not created, but items assets and liabilities, deferred income and deferred expense are recognised separately in the balance sheet. According to Mance and Škalamera-Alilović (2013), the withdrawn IFRIC 3 represents the best possible solution for emission allowance accounting. The standard came under criticism mainly because of the inconsistent recognition and valuation of assets and liabilities, where the same items were treated differently on the

credit and debit side of account (allowances are valued at fair value, while liabilities are valued at present value when incurred, not settled). As a solution to the above, the authors propose the application of fair value accounting in both cases (in the valuation of assets and in the valuation of liabilities).

#### 4. CARBON EMISSIONS AND PRICING IN THE EUROPEAN UNION

A carbon accounting framework is needed to help track GHG emissions and their impact on the environment. Developed countries produce more GHG emissions than other countries, despite having the financial resources to reduce emissions significantly. Figure 2 shows total GHG emissions in tonnes in the EU, by Member States. Countries like Germany, the United Kingdom, France, Italy, and Poland emit significantly larger shares of GHG than other EU Member States. Total GHG emissions are measured in five sectors (energy, industrial processes and product use, agriculture, land use, land-use change, and forestry (LULUCF), and waste management) for six years by the European Environment Agency. The LULUCF sector usually has negative emissions because it is removing carbon from the atmosphere.

Figure 2: Total GHG emissions in tonnes in the EU



Source: Authors according to data available at Eurostat – online data code env\_air\_gge

Smaller countries like Croatia, Cyprus, Latvia, Lithuania, Slovenia, Malta, and Estonia, do not produce large quantities of GHG emissions, but that does not mean they should not measure and report them. The GHG emissions by sectors in Croatia are shown in Table 1.

Table 1: GHG emissions in tonnes by sectors in Croatia

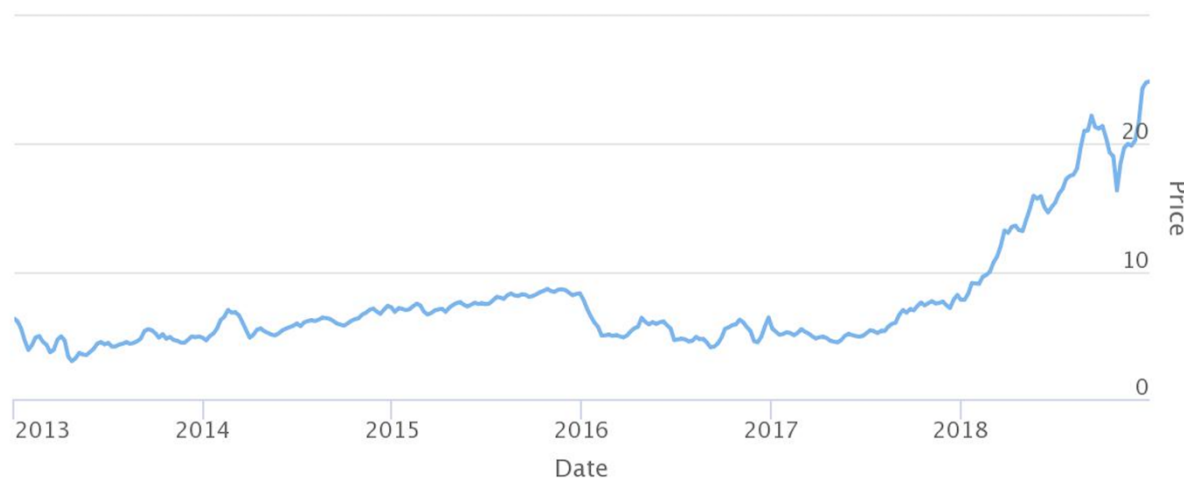
	2013	2014	2015	2016	2017	2018
Energy	17.323,06	16.386,24	16.625,21	17.009,50	17.388,08	16.443,04
Industrial processes and product use	2.626,15	2.751,94	2.823,19	2.488,96	2.738,02	2.590,90
Agriculture	2.723,67	2.650,31	2.722,28	2.678,79	2.805,05	2.720,30
Waste management	1.790,90	1.908,79	1.954,64	2.098,10	2.100,93	2.038,55
LULUCF	-6.060,32	-6.086,28	-5.122,14	-5.179,72	-4.489,61	-5.094,23
Total	18.403,46	17.611,01	19.003,17	19.095,63	20.542,48	18.698,57
Total without LULUCF	24.463,78	23.697,28	24.125,32	24.275,35	25.032,08	23.792,79

Source: Authors according to data available at Eurostat – online data code env\_air\_gge



Some of the effective ways that have been used to contribute to the emissions reduction include carbon pricing and carbon markets. The European carbon market was founded in 2005, and it was the first carbon market in the world. Carbon pricing is defined as “an instrument that captures the external costs of greenhouse gas (GHG) emissions—the costs of emissions that the public pays for, such as damage to crops, health care costs from heat waves and droughts, and loss of property from flooding and sea-level rise—and ties them to their sources through a price, usually in the form of a price on the carbon dioxide (CO<sub>2</sub>) emitted” (World Data Bank). In other words, carbon pricing affects emitters. It influences their business decision-making by allowing them to decide whether to invest in technologies and activities with lower emissions or continue emitting and paying for them. Figure 3 shows changes in the carbon pricing on the European carbon market from the 1st January 2013 until the 31st December 2018.

*Figure 3: CO<sub>2</sub> European emission allowances*



*Source: Ember, available at <https://ember-climate.org/carbon-price-viewer/>*

## 5. IMPLICATIONS AND CONCLUSION

Despite efforts, a standardised carbon accounting framework has not been established yet. A uniform framework would be essential at different institutional and geographical levels, but it has not been established yet. From a geographical perspective, there is a need for accounting and reporting of emissions at the global or multinational, national, and local levels. From an institutional perspective, Schaltegger and Csutora (2012) define scientific, political, and economic as well as corporate carbon accounts. The GHG Protocol developed by the World Resources Institute (WRI) (first edition published in 2001, revised in 2004) provides companies with guidance on establishing GHG emissions accounting and reporting systems (Schmidt, 2009). To help companies establish greenhouse gas emissions accounting systems, the World. The GHG accounting and reporting practices are evolving and are new to many businesses so there are some barriers that need to be overcome. However, GHG accounting and reporting practices are partly based on generally accepted financial accounting and reporting principles. To ensure that GHG accounting and reporting practices are in compliance with regulatory requirements, they are based on the following five principles: relevance, completeness, consistency, transparency, and accuracy (Greenhouse Gas Protocol, 2004). Direct GHG emissions are easier to measure because they are emitted by companies themselves. Indirect GHG emissions are produced outside the company through the use of energy, raw materials, or services. Sometimes, the indirect GHG emissions are more significant than the direct GHG emissions. Reducing GHG emissions is a broad goal that includes not only companies but also entire cities. Kennedy and Sgouridis (2011) suggest two key aspects of urban emissions that need to be included in the carbon accounting framework for cities.

The first aspect is the emission scope that classifies emissions in the city according to a hierarchy of responsibility. The second aspect is called emission strategy, and it defines the acceptable means that the city can use to manage its GHG emissions within previously defined emission scopes. Although the low-carbon economy has been developing rapidly in recent years, there are still many challenges and unresolved issues, including how to implement carbon or GHG accounting. Although it may seem that the transition to the low-carbon economy is a straightforward process as it involves different strategies for reducing GHG emissions, but it is a complex concept that needs to be studied in more detail. There are no standardised GHG accounting principles that can be used by stakeholders around the world around the world and between stakeholders. Moreover, governments are implementing different low carbon strategies; however, GHG accounting is not a mandatory part of financial statements. The GHG accounting principles and standards are widely discussed in the contemporary literature but only as a conceptual framework, with various implications for measuring GHG emissions.

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## DIGITAL MARKETING AT THE PROMOTION OF RURAL REGIONAL TOURIST DESTINATION

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### ABSTRACT

*Today in tourism, as one of the most important industries in the world, the Internet occupies a large and significant role, especially in the promotion and sales segment. Digital marketing gives a new dimension to classic marketing activities, such as market research, analyzing consumer behavior, communication and information, etc. This paper explores the ways in which digital marketing contributes to the promotion of rural regional tourist destinations with the aim of creating a new tourist brand on the example of Požega-Slavonia County. In this paper the results are collected using the methodology primary research. The research for this paper was made as a part of the branding project of the Požega-Slavonia County. The activity of tourism business subjects on Internet platforms and activities on social networks was analyzed and also the impact of these activities on the promotion of the observed tourist region. Given that the Internet is perfect platform for selling tourist products directly to customers and one of the main tools for consumers to seek relevant information, further implementation of ICT and more intensive use of the Internet, tourist entities in rural tourism would enhance communication with potential tourists, distribution of their tourist products and special offers and thus there would be a significant promotion of the tourist destination.*

**Keywords:** *Digital marketing, Promotion, Regional tourist destination, Rural tourism*

### 1. INTRODUCTION

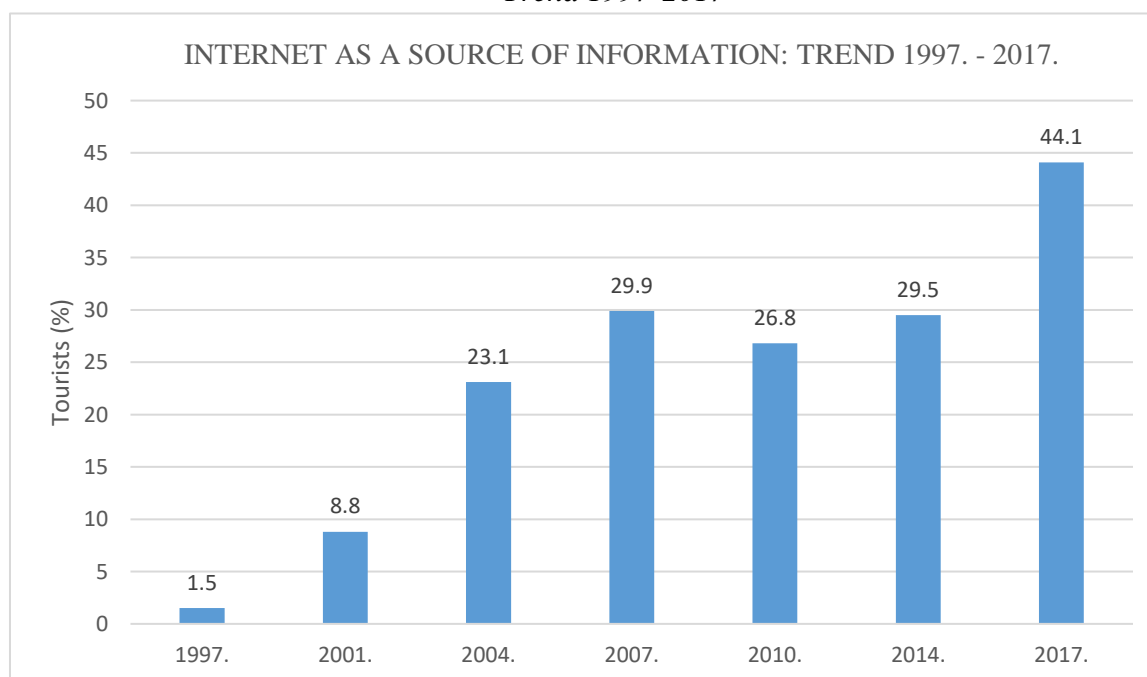
In tourism, as one of the globally most important economic branches, the Internet today plays a large and significant role, especially in the segment of promotion. Internet marketing is the use of the Internet and other digital technologies to achieve marketing goals in support of the modern marketing concept. Managing the promotion of a rural tourist region is a complex process because it involves a large number of stakeholders involved in providing tourist services and combining different activities into a single tourism product or service (Davis and Morais, 2004; Cawley and Gillmor, 2008; Krajnović et al. 2011). From this aspect, activities on the Internet carried out by individual tourist entities also play a very important role in the promotion of rural tourist destinations. Successful promotion on the Internet today involves interactive communication between a company and its customers, which takes place in the pre-sales, sales and after-sales phase (Kotler, Bowen, Makens, 2010). Digital marketing gives a new dimension to classic marketing activities, such as market research, analyzing consumer behavior, communication and information, etc.

In this paper, the authors explore and question the role and importance of digital marketing and activities of individual tourism entities on the Internet to promote regional rural tourism destinations on the example of Požega - Slavonia County. It will be questioned how passive tourist entities become active promoters of both their own activities and tourist destinations as a whole by applying new digital marketing technologies. The primary research for the needs of this paper was made as part of the project of promotion of Požega-Slavonia County in the brand Golden Slavonia. The activity of tourist business entities on internet platforms, ie activities on social networks, were analyzed and what impact these activities have on the promotion of the observed tourist region. Given that the Internet is a perfect platform for selling tourist products directly to customers and one of the main tools for consumers to seek information related to travel, further implementation of information and communication technologies and more intensive use of the Internet, tourist entities in rural destinations have significant opportunities to improve communication with potential tourists, distribution of its tourist products and special offers and thus there would be a significant promotion of the tourist destination.

## 2. THEORETICAL FRAMEWORK

The application of information and communication technologies (ICT) has significantly affected changes in society and significantly increased the need for information, which is, specifically in tourism, a key point in planning and organizing travel (Krešić et al. 2011). Organizing a trip, regardless of motive and duration, requires a lot of different and timely information. The Internet allows for easy use and quick availability of information, interactivity and flexibility. By using various online marketing channels, customer relationships are developed, the customer is in the center of attention, and all information is thus easily accessible, clear and comparable. One of the main features of today's potential tourists is the constant growth of usage of the Internet as a medium for gathering information and buying travel. This is supported by the graphic presentation in Table 1, which shows the habits of tourists who come to Croatia on vacation in terms of using the Internet as a source of information.

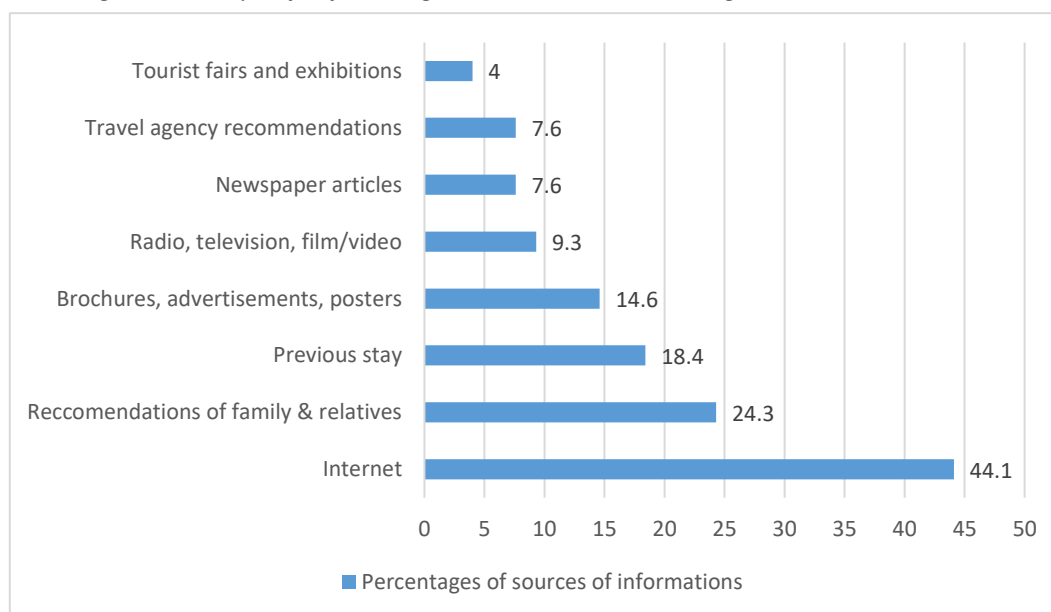
*Figure 1: Internet as a source of information for tourists staying in the Republic of Croatia: Trend 1997-2017*



*Source: TOMAS Ljeto, 2017.*

From the illustration in Figure 1., it is evident that the importance of the Internet as a source of information is growing rapidly. The Internet was first included in the TOMAS Ljeto 1997 survey and offered to guests as one of the sources of information. At that time, only 1.5% of tourists used it to gather information, while according to the TOMAS Ljeto survey, which was conducted in 2017, it was used by 44.1% of tourists who came to Croatia on vacation and who participated in the research. Internet marketing is the most important part of digital marketing. The most important Internet services for the purpose of digital marketing are: social networks, websites, Google Maps, Search marketing (SEM) (search engine marketing), e-mail, group discussion or forums, blogs. Social media marketing has become very popular in recent years as millions of people spend a significant portion of their time on social networks such as Facebook, Twitter, Google+, YouTube, LinkedIn and other networks. The Internet is currently used by more than 4.5 billion people worldwide, and 3.8 billion use social networks. Almost 60% of the world's population is already online, and soon more than half of the world's population will use social networks (Digital 2020)<sup>1</sup>. Worldwide, 3.80 billion social network users were recorded in 2019, an increase of more than 9% compared to last year. Globally, mobile phones are used by more than 5.19 billion people, an annual increase of 124 million (Digital, 2020). So, more and more people are using mobile phones to search the Internet, use social networks or find a product or service they are interested in. GlobalWebIndex reveals that more than half of the time we use mobile phones online, and 92% of the world's Internet users connect via mobile devices (Digital, 2020). App Annie has calculated that the users of smartphones in 2018. downloaded more than 200 billion mobile applications (Digital, 2020). Communication via the Internet is interactive, enabling two-way communication on three levels: one to one, one to many and many to many (Autumn, 2010). The Internet enables two-way communication with consumers, it is easier to target the target group, it is easier to measure their reach (eg the number of clicks on the ad, etc.) and they are much more cost-effective. Looking at the ways of informing tourists when choosing tourist destinations (Figure 2), according to the latest TOMAS Ljeto 2017 survey conducted in 2017, the Internet is in first place as a source of information for tourists visiting Croatia, while 7 years ago it was in fourth place.

*Figure 2: Ways of informing tourists when choosing a tourist destination*



*Source: TOMAS Ljeto 2017.*

<sup>1</sup><https://datareportal.com/reports/digital-2020-global-digital-overview>

According to the research, as shown in Figure 2 2, the main source of information for tourists coming on vacation to Croatia is the Internet, which in 2017. relied on 44% of guests. Sources of information are significantly changing under the influence of technological changes, and their monitoring is important for all those involved in information and promotion in tourism. Table 1 gives an overview of the Internet as a source of information.

*Table 1: The Internet as a source of information*

The Internet as a source of information	%
Social media (Facebook, TripAdvisor, Instagram, Twitter etc.)	67,0
Online travel agencies (Booking.com, Expedia, Holidaycheck.de etc.)	50,7
Websites of Croatian tourist boards/offices (national, local)	45,5
Websites of accommodation facilities (hotels etc.)	44,4

*Source: TOMAS Ljeto 2017.*

From the presented information in Table 1, it can be seen that social media (67%) such as Facebook, TripAdvisor, Instagram, Twitter are mostly used to collect information via the Internet. The web pages of online travel agencies such as Booking.com, Expedia, Holidaycheck, etc. are also visited in large numbers, 45.5% of respondents search the pages of tourist boards and 44.5% of the pages of accommodation facilities. A very important role in the promotion and marketing of a tourist destination is played by advertising and public relations, which they carry out with travel agencies and tourist boards and individual tourist entities in the area of the tourist destination. It is very important to take care of Content Marketing. Marketing Content Institute (2015) defines marketing content as “the marketing and business process of creating and distributing relevant and valuable content to attract, acquire and engage a clearly defined and understood target group - with the goal of achieving profitable customer action.” According to Chaffey et al. (2000) The main characteristic of content marketing is its educational role as the main element of attracting customers. Content marketing should focus on creating quality content that attracts people to the company and the product or service. By creating content that is aligned with the interests of customers, they attract visitors to the website and over time, those visitors can become customers. Likewise, Chaffey et al (2000) point out that "good content is key to attracting customers to websites in order to maintain their interest and ensure revisits, with the aim of achieving profitable action." The key is the design, text and graphic information that form the website. The ultimate goal of content marketing is not direct sales but the realization of long-term relationships with potential customers who will return to their website and use their products and services due to the acquired trust in the company and the brand. This is how Pulizzi (2017) calls marketing content "corporate storytelling". Jutkowitz (2014) also points out that “today large corporations are becoming their own media companies, news agencies, research institutes and social networks.” The role of content marketing is to publish valuable content to the target group and achieve long-term customer loyalty. Yazdanifard, 2015). The content of the website is its most important component because the content as a set of information is the reason why visitors come to the website "(Ružić, Biloš, Turkalj, 2014). Likewise, trends in content creation create an increasing role for visual and multimedia content (Burger, 2017: Pulizzi, 2017, Hall 2017), but forms of marketing content can be different, but Jarvinen and Taiminen (2016) place emphasis on digital forms. The digital character allows almost anyone with Internet access to create, publish, and distribute content (Hennig-Thurau, et al. 2010), eliminating almost all barriers to using it (Pulizzi, 2012).

*Table following on the next page*

*Table 2: Activities on social media*

<b>Activities on social media during the stay at the destination</b>	<b>%</b>
Uploading photos from the trip on the Internet (Facebook, Instagram, Flickr)	51,0
Status updates with travel details on social media ( Facebook, Twitter, Foursquare)	31,2
Updating blog content with travel details	5,7
Writing reviews on online site like TripAdvisor	9,1
Uploading video content on the Internet (Youtube)	12,1
None of the above	39,9

*Source: TOMAS Ljeto 2017.*

According to the TOMAS survey, tourists are extremely active on the Internet and during their stay in the destination by uploading photos from trips to the Internet (51%), updating the status with travel details on social media (31%), or to a lesser extent, upload videos to the Internet, write reviews on online sites and update content on blogs with travel details. Thus, the Internet becomes a medium for instant "word-of-mouth" or transmission of information to your circle of friends. Once upon a time, what was said about products and services was in the hands of the tourism companies themselves, but now it's all in the hands of consumers. Consumers today increasingly buy what some before them decided to buy, watch and look for the experiences of others, written reviews have a special role in this. Reviews have always been an integral part of marketing, and fall within the realm of word of mouth. Oral delivery is a form of personal communication that affects consumers in the purchasing decision-making process. Online reviews can be defined as a form of virtual oral presentation between users who exchange information about the positive and / or negative characteristics of products and services, movies, and which are available via the Internet. The study by Ye, Q. et al. (2009) conducted to examine the impact of online reviews on hotel accommodation sales showed that positive online reviews can significantly increase the number of hotel reservations and how negative reviews also affect the amount of online sales. The results further showed that a 10% rating improvement could increase sales by 4.4%. On the other hand, negative reviews can reduce sales by 2.8%. J. Lee et al. (2008) in their research came to the observation that consumers form negative attitudes about the product under the influence of negative online reviews of other consumers. It is also interesting c negative reviews have been shown to have more of an impact on a purchase decision than low quality products.

### 3. METHODOLOGY

The research for the purposes of this paper was conducted in the administrative Požega-Slavonia County, which in its area carries out activities related to the promotion of the brand called Golden Slavonia. As can be seen in Table 3. This study involved 100 businesses operating in the Požega-Slavonia County, and engaged in the provision of catering services - restaurants, bars, accommodation services, private renters, public institutions, local producers - wineries, tasting rooms and pubs, family farms, travel agencies, wellness and holders of tourist offer through attractions.



*Table 3: An overview of research participants on the role and importance of digital marketing in the promotion of the Golden Slavonia brand*

<b>Businesses</b>	<b>Number of participants</b>
Accommodation	14
Private accommodation	32
Tasting rooms, pubs, wineries	17
Travel agencies	5
Restaurants	6
Local products	13
Attractions	11
Wellness	1
Caffe's	1
<b>TOTAL</b>	<b>100</b>

In the empirical part of the paper, the method of collecting primary data through Internet research, ie online, was used. The survey was conducted from May to December 2019. The collected data is available on the Internet (personal websites, blogs, forums, etc.) We researched and analyzed the websites of business entities, their publications and in general the way they manage their websites, their presence on social networks, the quality of the presentation and the quality of the content presented. The focus groups explored the attitudes of respondents about their role and importance for the promotion of their activities as well as the tourist destination of Golden Slavonia and activities related to digital marketing. A thematic analysis of the obtained data by the method of grounded theory was performed (Glaser, Strauss, 1960)<sup>2</sup>. Based on the data collected and processed in this way, the results of the research are formulated, which are presented later in this paper.

#### **4. RESEARCH RESULTS**

When we talk about the development of rural tourism in continental Croatia, we can conclude that this is an area of exceptional natural and social potentials, but in terms of tourism insufficiently valorized (Petrić 2006; Ružić 2009, Kljaić 2020). One of the reasons may be extremely poor promotion, especially when it comes to digital marketing. The authors of this paper were encouraged by one of the workshops on Integrated Quality Management in Golden Slavonia, where participants (Table 3) were asked: "Who do they think is responsible for the tourist promotion of the destination, and thus for the promotion of tourism entities that do they operate in the area? "Basically, everyone answered that the tourist board was responsible for that and that they were not completely satisfied with how it was done. To the question "Do they think that they are responsible for the promotion of their tourism and hospitality activities?", and "Do they think that they themselves can contribute much more to the promotion of their business and their business entity, as well as the destination itself?" as individuals they do not have much opportunity to influence the promotion of their destination, as far as their own business is concerned, they stated that each advertising requires a lot of financial resources that they as individuals can not allocate and that they expect help from local government. Below is an overview of the number of realized tourist arrivals and overnight stays in Požega-Slavonia County since 2016. until 2018.

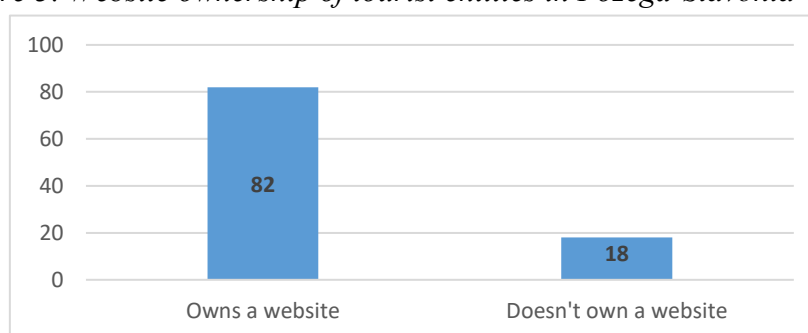
<sup>2</sup>Grounded theory = a theory that develops by the close interaction between data and data understanding (large agreement of data and theory). The process of building a theory involves constant checking (back and forth) between different aspects of the analysis process.

*Table 4: Overview of realized tourist arrivals and overnight stays since 2016. until 2018 in Požega-Slavonia County*

	<b>2016.</b>	<b>2017.</b>	<b>2018.</b>
<b>Arrivals</b>	601	674	1061
<b>Overnight stays</b>	26 000	31 000	34 134
<b>Average number of days of stay</b>	2,3	2,2	3,1

In 2018, Požega-Slavonia County realized 1,061 arrivals, ie 36,134 overnight stays. Compared to 2017, this is a growth of 16%, and compared to 2016, a growth of 39%. From year to year, there is an evident increase in tourist arrivals and overnight stays, but not enough. Požega-Slavonia County participates in the total overnight stays of continental Croatia without the City of Zagreb with only a modest 1.5%. Given the exceptional natural and social potentials of the county or region of Golden Slavonia, we can conclude that it is extremely modest tourist traffic. The following is the results of the primary research of activities related to digital marketing of business entities. At the very beginning of the research, an Internet search was started with the aim of determining how many business entities that participated in the research have their own website. The results of the research are visible in Figure 3.

*Figure 3: Website ownership of tourist entities in Požega-Slavonia County*



As the results of the research show in Figure 3., 82% of respondents have their own website while 18% of surveyed tourist entities do not have their own website. The situation is identical with positioning on Google Maps. Thus, 82% of respondents are positioned on Google Maps while 18% of respondents are not positioned on Google Maps. In addition to the existence of the website, its position on the search engine is also important. If a website is not on the first page of search engine results, there is very little chance that that page will sell its products or services successfully. It is not necessary, but it is an unwritten rule that the first three results on the first page of results achieve the highest sales, while other competitors lag behind them. In this regard, great attention should be paid to the marketing of content on the Website. The amount of traffic depends on the quality of the content (content marketing) because the more visitors who come to the website and stay on it, the better the website will be positioned on search engines. Published content should be attractive, readable and clear to search engines. Regarding the quality of publications on the website, the quality of photos and content on the website were analyzed. Regarding the quality of photos (high resolution photos) on the website, 88% of tourist entities have their own photos, but unfortunately 62% of them are of low quality, ie unsatisfactory resolution. Only 30% of respondents confirmed that they have, or have used the services of a professional photographer, 20% of respondents said they do not have photos, and 10% believe that they do not need photos. Google Maps is a free digital network map technology, which forms the basis of many services. It allows easy implementation on different websites, combining with other applications, developing add-ons and adapting to specific needs.

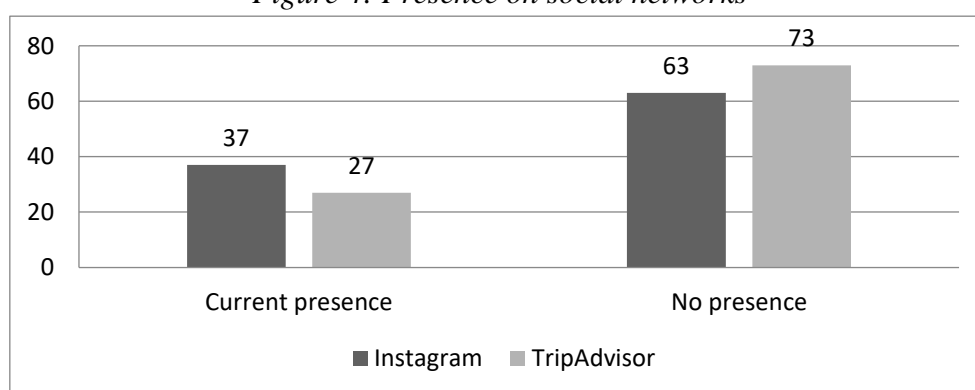
Regarding the quality of the presentation on Google Maps, we investigated whether there is contact information, photo quality (resolution), whether there is a link to the website, and whether control over the location has been taken. The results of the research are shown in Table 5.

*Table 5: Presentation quality on Google Maps*

Elements of quality	Representationc
Contains contact information	94%
Photo quality	45%
There is a link to their website	82%
Has control over the location	50%

As we can see from Table 5. 94% of business entities on Google Maps have contact information, 82% of tourist entities on Google Maps have a link to their own website, in terms of photo quality only 46% of photos meet the quality, and only 50% of tourist entities positioned on Google Maps have taken control of the location. Social networks and social networking are an easy way to maintain and / or strengthen the existing circle of friends and / or acquaintances and expand their circle, in various forms they have always existed. Social networks are part of the so-called social media, virtual or online communities where groups of people communicate in different ways, using blogs, comments, phones, emails and sharing text, audio and video, photos for social, business and educational purposes. The goal of any social network is to create a relationship of trust between it and its users. (Živković, 2014). According to research by the World Tourism Organization (UNWTO), almost 50% of tourists visit 10 or more travel-related websites before traveling, to choose from an offer within a category they have previously defined (Carroll, P. 2014, UNWTO, 2014). Given that there are a lot of social networks present today, and due to the size limit of the work, the use of two very popular profiles on the social networks, Instagram and Trip Advisor, was analyzed. The aim was to determine the extent to which business tourism entities own and use these two online marketing instruments. The activities of the respondents on two very popular profiles, Trip Advisor and Instagram, were analyzed below.

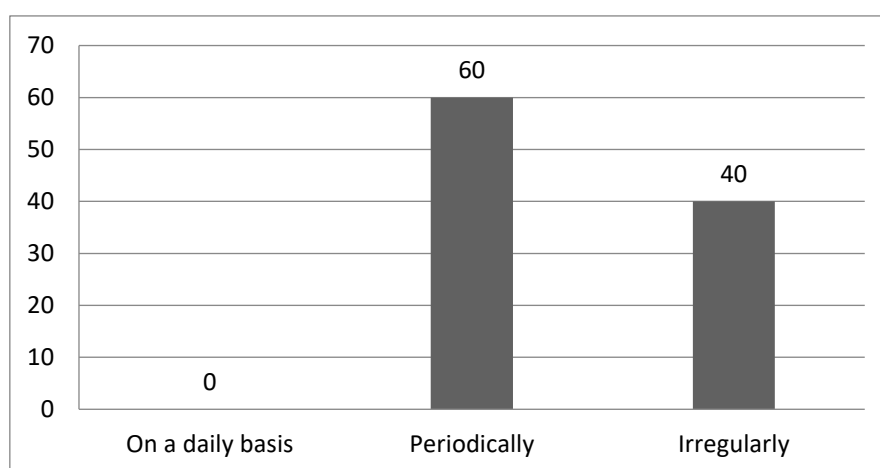
*Figure 4: Presence on social networks*



We can see, only 27% of respondents, tourist business entities in Požega-Slavonia County, have an open profile on Trip Advisor. This global portal is used by a million people daily. It is a tourist internet portal that offers individual advice for users who are planning a vacation. It offers travel tips and assessments, links to reports from newspapers, magazines, travel guides and travel forums. As for the Instagram profile, the situation is somewhat milder but almost identical.

Thus, 63% of respondents answered that they do not use an Instagram profile, and only 37% of respondents answered that they have an Instagram profile. The special feature of Instagram is that the content focuses exclusively on photos as a medium through which you need to express your feelings and appropriate #hashtags. It is a mobile application that allows you to create and edit photos, and then share photos with followers. With its great growth, it is slowly matching the most popular social networks, it has a billion and a half active users. More than 75 million people are active on Instagram c advantage of Instagram is that with the help of the geo tag option of photos of the catering facility, it is possible to promote the offer to Instagram users who are searching for the corresponding destination. Instagram has grown into one of the largest social networks in the last few years. Likewise, if we have an open profile on a particular social network, and do not communicate with users, do not respond to inquiries or comments, do not follow reviews, do not encourage users of our services to leave their reviews, whether positive or negative, we miss an important link in the chain of promotions via the Internet. We fail to shape and influence the current "word-of-mouth" or transmission of information to a wider circle of potential users. An interesting study was conducted by Phocuswright<sup>3</sup>, which shows that more than 50% of tourists will not book a hotel if they have not read at least one review, while a survey by Zendesk<sup>4</sup> showed that as many as 88% of users are affected by online comments when making a purchase decision. Regarding the activity of respondents on social networks, the situation is quite critical, which can be seen from the illustration in Figure 5.

*Figure 5: Respondents' activities on social networks*



Regarding activities on social networks, none of the respondents had daily activities on social networks in terms of promoting their own business, monitoring reputation, responding to guest comments. Occasionally 60% of respondents are active, and 40% of respondents are irregularly active. Respondents were also asked whether they follow the online reputation of their own catering and tourist facility and to what extent they follow, let them report the results, ie how many comments they have and what types on their pages. All respondents answered that they do not follow the online reputation and that they do not know the results for 2019. The Internet and social networks have brought major changes to the purchasing decision process. A TripAdvisor study shows that more than 50% of guests will choose a hotel that responds to customer reviews rather than one that doesn't. Of the users who booked the trip and were disappointed in it, 42% responded with online criticism (Mediatoolkit)<sup>5</sup>.

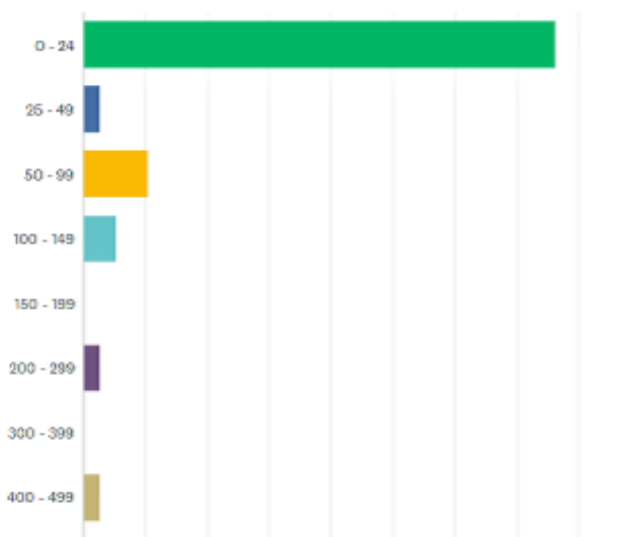
<sup>3</sup><https://www.phocuswright.com/Travel-Research>

<sup>4</sup><https://www.zendesk.com/customer/minor-hotels/>

<sup>5</sup>Mediatoolkit<https://blog.mediatoolkit.com/hr/online-recenzije-imaju-veci-utjecaj-na-turiste-od-oglasivackih-kampanja/> (15.02. 2020)

According to a PhoCusWright survey, 80% of guests will read an average of 6-12 reviews before deciding which hotel to book, and 53% of TripAdvisor users say they will not book a hotel without a review.

*Figure 6: Annual number of reviews by facilities*



Regarding the published reviews for tourist entities operating in the Požega - Slavonia County and who participated in this research, we can conclude that they are insufficient. On average, up to 24 reviews are received per facility per year, 77% of respondents have from 0 to 24 reviews, only 3% of facilities have up to 500 reviews, and 8% of surveyed businesses do not receive any comments from c only 26% of respondents respond to comments irregularly. It is desirable to encourage guests to leave comments about the quality and satisfaction with the service provided. When guests leave comments, it is mandatory to follow the comments, thank them and respond to comments because it creates trust among guests and positively affects those who have yet to make a decision to buy a particular product or service. Potential guests will book the catering service sooner if they notice the active attitude of the owners with regard to the comments. Leaving comments by guests and responding to comments from restaurant owners increases the visibility of the facility, and this also contributes to better promotion. This all affects the perception of new potential guests looking at the profile or thinking about booking. The creation of online social networks and social networking is enabled through social software and Internet services, and among them the most famous and most widespread are Facebook, Instagram, Twiter, YouToubе. There are many positive experiences with business networking, especially in the form of promotion or sales. Namely, business networking is a cheaper form of marketing and establishing a quality public relationship. The results of the research indicate that 85% of respondents are not familiar with the possibility of online networking, and only 13% of them use online networking, emphasizing that it needs to be upgraded. None of the respondents has fully implemented online networking.

## 5. CONCLUSION

Given that the Internet is a perfect platform for selling tourist products directly to customers and one of the main tools for consumers to seek information related to travel, further implementation of information and communication technologies and more intensive use of the Internet and using opportunities provided by digital marketing tourism entities in rural tourism improve communication with potential tourists, distribution of their tourist products and special offers and thus there would be a significant promotion or branding of the tourist destination.

Well-chosen communication channels combined with perfect timing and an ideal message tailored to the target group can give unexpectedly good and above average results even with relatively low investments. One of the most important aspects of marketing communication through new media is the creation of marketing content whose main educational role is to attract potential users to their products and services. The basic goal of content marketing is not direct sales but the realization of long-term loyal relationships with potential consumers, users of products and services, who will return due to the acquired trust and repeatedly use products and services in order to meet their own needs and motives. Equally strong emphasis should be placed on the review management process, of which there are extremely few in this example. It is necessary to encourage guests who have consumed the product or service to leave their comments on the pages of the business entity, but it is also crucial to respond to the review, to thank them. It is these actions that are crucial for the quality promotion of both business entities and the region. In this way, we come to the answer that tourist entities can from one passive position, with proper and focused activities, become active factors in the promotion of their own business entity and the entire region with minimal financial investment.

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## SUSPENDED AND CLOSED – EFFECTS OF EPIDEMICS ON TOURISM

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### ABSTRACT

*The safety of tourism is of crucial importance. Safety embraces several aspects of travelling: safety from natural disasters, safe environment, health safety. From time to time health emergency situations raise their head: SARS, MERS, Ebola, Chinese coronary virus – just to mention some of them. The outbreak of epidemics affects not only the health of tourists, but also the health of economies because of possible losses in tourism. The present coronary virus epidemic has already caused serious losses for the industry: attractions are closed, flights, package tours are suspended. Tourism industry was a success area in Asia over the last decade, this blooming was put an end to. However, it is impossible to estimate the real future losses. International organizations, governments, airline companies, service providers have issued several recommendations to handle the situation. But not only economic loss has to be faced, but also “social costs” may arise. The sometimes excessive, unreasonable reactions on the epidemic can result in stigmatization of Chinese and Asian tourists as well – as the World Travel and Tourism Council warns. The aim of the paper is to identify the consequences of epidemics on tourism industry, which is extremely vulnerable to health crisis situations. The topic is examined with the help of case studies. What can be the possible measures to minimise the negative consequences of these sad situations? How much time is needed to recover from the devastating epidemics? Are there any good examples from the past for the less painful recovery? Who has any responsibility on this field? These are just a few questions the paper tries to find the answers for.*

**Keywords:** *Tourism, Epidemics, Economic effects*

### 1. INTRODUCTION: THE IMPORTANCE OF TRAVEL SAFETY

It is now a boring cliché, that safety and security are key drivers of choosing the travel destination. These two simple words embrace our basic human needs: safety from natural disasters, safe environment, health safety, security from terror attacks and criminality. The aforementioned elements are considered to be risk factors. Several researches strengthen the fact that when making a travel decision, safety and security issues have crucial and vital importance. Meanwhile, not only travel choices are influenced by them, but the destination image and the satisfaction, loyalty of tourists are also impacted by them (Nouri et al, 2018). However, travelers tend to underestimate certain risks: health perspectives fall into this category. Natural disasters, terror attacks are extremely scarce and uncertain (Rose- Keystone – Hackett, 2019). However, the present sad situation due to the coronary virus epidemic may change this attitude. Unfortunately, epidemics break out from time to time in the history of humankind – causing the death of many people, sufferings - resulting in emergency health situations. In the 20th century, when masses started to travel, when air travel became an everyday activity for a lot of people; the spread of infectious diseases became faster than ever.



Air travel can facilitate the spread of several infectious illnesses e.g. influenza H1N1, vibrio cholerae, Dengue-virus, ZIKA virus, Chikungunya virus, SARS-Cov, MERS, Cov. (Findlater, Bogoch, 2018). Travelers, tourism industry also contributes to the escalation of pandemics. (Wilder-Smith, 2006). Until the outbreak of the new coronavirus disease, many tourism destinations suffered from overtourism – in some months the situation has taken a total twist: the former popular destinations are empty (Marcus, 2020). The appearance of pandemics affects the health of many persons: well-being of tourists, of local residents, the health of inhabitants of the home countries, where tourists originate from. But it does only influence the health of people, but also the health of economies as well because of the serious losses suffered as a consequence of the epidemic. One of the most tremendous losses are experienced by the former success industry: the tourism field. However, it is impossible to estimate the real future losses of the present coronary virus epidemics at the moment.

## **2. POSSIBLE LOSSES OF THE TOURISM INDUSTRY – THE EXAMPLE OF CORONAVIRUS**

Besides the serious health consequences, the many fatalities, human sufferings – economic, social and psychological effects can be detected due to the present coronavirus. Tourism industry is an extremely sensitive field to epidemics.

### **2.1. Economic losses: spillover effect**

However, OECD emphasizes, that the global economic perspectives for this year (2020) are extremely uncertain, the organization states, that if we have to face a more serious and longer lasting outbreak, the global economic growth could drop to 1,5% in this year – it is the half of the projected percent for this year. (OECD, 2020). Some experts compare the present situation and losses to the ones in case of the terrorist attacks of September 11. Mark Zandi, a Chief economist of Moody's Analytics referred to the fact, that the travel industry is affected the most directly and rapidly (Isidore, 2020). Tourism industry was a success area in Asia over the last decade, however, this blooming was put an end to. Chinese travelers constituted a significant market, nonetheless, it was absolutely halted. Meanwhile, the decline has increased beyond this market, and a spillover effect started to work – have detrimental effects on the tourism industry of the whole world. Significant conferences were cancelled, airlines companies have suspended their flights, attractions are closed – people have cancelled their holidays and business trips – so the whole tourism industry has to face an even more increasing crisis.

*Table following on the next page*

*Table 1: Some examples of closed attractions, cancelled conferences because of the Chinese coronary virus epidemic*

	<b>COUNTRY/CITY</b>	<b>EXAMPLE</b>
<b>LIMITATIONS IN CASE OF ATTRACTIONS</b>	China, Shanghai	Shanghai Disney Resort: closed
	South-Korea, Gyeongbokgung	Gyeongbokgung Royal Palace: temporary suspension of guided tour program
	Italy, Milano	Milano Duomo: at the beginning of the crisis programmed and organized access to avoid assemblies, no lifts are allowed, from 8 <sup>th</sup> March the duomo is closed
	Tokyo, Japan	Tokyo Skytree: closed
<b>CANCELLED IMPORTANT CONFERENCES</b>	Spain, Barcelona Geneva, Switzerland Germany, Berlin San José, California, USA Hong-Kong	Mobile World Congress Geneva Motor Show ITB Berlin F8 Conference (Facebook Conference) Art Basel Hong Kong
<b>OTHER CANCELLED IMPORTANT EVENTS</b>	Tokyo, Japan London, UK Venice, Italy Milano, Italy	Olympic Games London Book Fair Venice Architecture Biennale Teatro Scala: performances suspended

*Source: Cultural Heritages Administration Royal palaces and Tomb Center, 2020; Yurieff, 2020; Isidore, 2020; Lastoe, 2020; Duomo di Milano, 2020a, 2020b; Olympic Games, 2020; Teatro alla Scala, Shanghai Disney Resort, 2020*

A big percentage of business trips is also cancelled, because companies do not want to expose their employees to risks. (Isidore, 2020). The spendings of Chinese tourists, who were responsible for spending 277 billion on their travels to foreign countries, have fallen drastically. (Pham, Sherisse, 2020). Tourism Economics forecasts, if the epidemic will be longer, than the former SARS pandemic, the outbound trips made by Chinese tourists will be less with 25 million – it means a 73 billion decrease in spending. Meanwhile, the revenues of the whole industries are expected to fall dramatically – making forecasts is unfortunately too early about the total loss. (Pham, 2020).

*Figure 1: The consequences of epidemics on the tourism and travel sector*



*Source: Own compilation*

Of course it is not only tourism industry that has to face serious losses, but also other, accompanying services as well. Air travel, cruise travels have dropped dramatically; causing tremendous losses for the airline and cruise travel industry. (Pham, 2020). Bookings for international flights from China have decreased by 55.9% when compared to the similar time of the year in 2019 (Jones et al., 2020). IATA has made different scenarios regarding the economic losses arising in the aviation industry: the so called “Limited Spread” scenario forecasts a 63 bn \$ loss of passenger revenues worldwide” this year; meanwhile the more serious, “Extensive Spread” scenario shows a 113 billion \$ loss all over the world for 2020 (Pearce, 2020).

## 2.2. Social losses: stigmatization, hysteria – overreaction

Besides the casualties, the sufferings, the losses of economies – social and psychological consequences have to be faced, too. People started to treat or assault Chinese, East-Asian people suspiciously – sometimes even blaming them for the epidemic. (BBC News, 2020, Guy, 2020). The World Travel & Tourism Council has warned to avoid the stigmatisation of Chinese and Asian tourists referring to the fact, that overreaction and hysteria can result in discrimination against certain nationals, which can cause harm in the long run as well. (World Travel & Tourism Council, 2020).

## 3. PAST CASES: CASE STUDIES

Pandemics in the past have caused tremendous losses for the industry (See Table 2). However, these former health crisis situations affected mostly a certain geographical region. Based on the lessons of previous viral epidemics different state authorities, companies, travel and tourism associations can outline their future actions to help the recovery of their industry.

*Table 2: The consequences of previous viral epidemics on the tourism industry*

CRISIS	CRISIS DATE	IMPACT DEPTH	MONTHS FROM CRISIS START TO RE-COVERY	LOST ARRIVALS (THOUSANDS)	LOST SPENDING (USD MILLIONS)
<b>DISEASE</b>					
<b>UK FOOT AND MOUTH</b>	FEB 02	10%	35	3,347	2598,3
<b>CHINA SARS</b>	FEB-03	13%	16	4,588	4410,7
<b>SINGAPORE SARS</b>	FEB-03	20%	17	1,472	1172,7
<b>TAIWAN SARS</b>	FEB-03	28%	27	871	1154,3
<b>HK SARS</b>	MAR-03	11%	14	1,362	1000,6
<b>SAUDI ARABIA MERS</b>	JUL-12	21%	-	5,599	2444,1
<b>SIERRA LEONE EBOLA</b>	MAY-14	70%	23	101	67
<b>GUINEA EBOLA</b>	MAY-14	41%	23	-	75
<b>MIAMI ZIKA</b>	FEB-16	1%	10	78	98,1

*Source: Global Rescue and World Travel & Tourism Council, 2019. p. 24.*

### 3.1. SARS

SARS (severe acute respiratory syndrome) made a hard hit on China's industry in 2003. However, Cao et al. consider it as a “wake-up call” for public health system (Cao et al., 2019). The most important lesson of the crisis was “honesty and transparency”, “the reporting systems”, “central guidance”, besides the urgency of public involvement into the measures (Cao et al, 2019, p. 58).

- Lesson 1: Fair, true communication about the pandemic is crucial to avoid unnecessary fear and consequences, the involvement of public is inevitable.

### 3.2. MERS

Saudi Arabia had to face MERS-CoV (Middle East respiratory syndrome coronavirus) epidemic some years ago. However, the emergency situation has fortunately been ceased, a special focus is needed from the authorities. When 10 million pilgrims arrive from 182 countries all over the world to the country to complete their pilgrimages, the possible spread of the virus again could cause a crisis situation again affecting millions of people. So a very cautious surveillance and awareness of public health authorities is inevitable (Azhar et al., 2019).

- Lesson 2: Cautious surveillance and awareness of public health authorities for the future is essential as well.

### 3.3. Ebola virus

The West-African Ebola emergency situation affected nearly 30.000 people, last 2,5 years. The pandemic concentrated mainly on three countries: Guines, Sierra Leone, Liberia. The consequence of the epidemic was detrimental for Sierra Leone, where the tourist arrivals have fallen by 50% in 2014 compared to the previous year. Unfortunately, travellers have not made any distinction between the affected Ebola zone and all other parts of West Africa. In 2014 Kenya, which is more, than 3000 miles from the affected territory has experienced a 7,7 decrease in tourist arrivals. In this phenomenon the fears over Ebola played crucial role. The media has responsibility: sensationalized fear creating should be avoided, meanwhile correct, true information must be transmitted. (World Travel & Tourism Council, 2018).

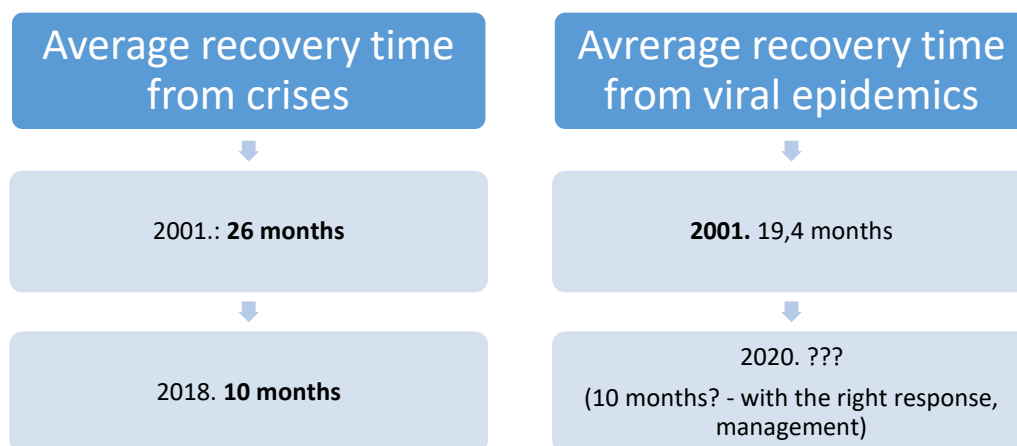
- Lesson 3: Cooperation among public and private sphere and within the two systems is inevitable to get the needed information to make the unavoidable, fundamental decisions (World Travel & Tourism Council, 2018).

## 4. CONCLUSIONS

### 4.1. The resilience of the tourism sector

The hope vested in the fast future regeneration of the travel industry is confirmed by previous research results, that show a significant improving resilience against crises in the previous times.

*Figure 2: Resilience of tourism industry*



*Source: World Travel & Tourism Council, 2020*

People seem to be much more resilient with crisis situations – especially if they know a destination well. Besides implementing good policies – effective communication is also a key element with the following basic blocks: “trust, collaboration, openness, empathy, honesty and efficiency” (Global Rescue and World Travel & Tourism Council, 2019, p. 17).

#### 4.2. Tourism and travel sector should prepare for crisis situations

Ritchie (2004) emphasizes, that the crisis management in the tourism industry should be holistic, strategic and proactive (Ritchie, 2004). (See Table 3)

*Table 3: The three phases of crisis management in tourism*

BEFORE THE CRISIS	DEVELOPMENT OF SCANNING, PLANNING
DURING THE CRISIS	IMPLEMENTING STRATEGIES
AFTER THE CRISIS	EVALUATION OF THE EFFECTIVENESS OF STRATEGIES FOR FUTURE

*Source: Ritchie, 2004*

Pre-crisis planning makes measures during the crisis situation more effective, so the work should start already before any crisis situation arises. (Ritchie, 2004; Kuo et. al, 2007). The Global Rescue and World Travel & Tourism Council has made concrete recommendations for all stages: from the preparation phase until the responses for the fast recovery. All of them are essential for an effective response. (See table 4)

*Table 4: Recommendations of the Global Rescue and World Travel & Tourism Council to handle crisis situations*

<b>I.</b>	<b>PREPAREDNESS TO MITIGATE THE IMPACT OF THE CRISIS</b>
1.	Build trust-based coalitions
2.	Assess readiness and maintain Emergency Action Plans
3.	Educate to reduce fear
<b>II.</b>	<b>MANAGEMENT TO EFFECTIVELY ADDRESS THE CRISIS</b>
1.	Communicate first, right and transparently
2.	Activate the emergency plan
<b>III.</b>	<b>RESPONSIVENESS TO ENSURE A SPEEDY RECOVERY</b>
1.	Invite the world back when you are ready
2.	Entice travelers to return
3.	Know your travel segment
4.	Rebuild stronger and better

*Source: Own compilation based on Global Rescue and World Travel & Tourism Council, 2019*

#### 4.3. Private-public cooperation is a key

For the recovery from the crisis the public-private partnership and close cooperation is inevitable. (Till then it is essential as well besides flexible future travel options and suspension of hotel reservations. (World Travel and Tourism Council, 2020) For the private – public sphere's cooperation Singapore's example can be a perfect example. Singapore has made the first steps already in the interest of recovery of the sector. They have set up a Tourism Recovery Action Task Force (TRAC), which embraces leaders from the public and private sector of tourism. TRAC also incorporates different related associations (e.g. Singapore Tourism Board, Singapore Hotel Association, Orchard Road Business Association, Changi Airport Group, and Wildlife Reserves Singapore). They plan to concentrate on four areas – that complement each other (See Figure x) (Singapore Tourism Board, LinkedIn, 2020).

*Figure 3: The four main concerns of the Singapore tourism recovery action plan*



*Source: Singapore Tourism Board, LinkedIn, 2020*

The partnership wants to embrace different stakeholders as partners, not as mere competitors. Their aim is to give support for people who work in the industry – now getting into a serious financial situation. (Liang-Pholsena, 2020).

#### **4.4. Re-planning**

During crisis situations, when there is a pause in the actual functioning: the time out should be used to re-plan, re-charge and to prepare the industry and the employees for future challenges. There are several good practices already from our times alleviated by the coronavirus pandemic. SkillsFuture Singapore, which is an online training and career centre, will also give more possibilities for the sector for different trainings – thus making it possible to re-train the employees in the empty periods. This way, the crisis can create the urgent need for forgetting standard solutions – and create a new level of consciousness in the industry (Liang-Pholsena, 2020). In February, 2020 the Sanya Tourist Attractions Association (China, Hainan province) offered online education for tourism enterprises in order to improve their services (Xinhua, 2020).

#### **4.5. The responsibility of governments**

First of all, all possible measures are necessary to limit the spread of the virus in present situation. (e.g. strengthening health-care systems, introducing quarantines, travel restrictions and limitations, closing institutions, etc.). After that coordinated policy actions are needed to alleviate the economic consequences. Companies – suffering serious loss – should be supported financially with special regard to small and medium sized companies. The measures that ease the burden of tourism companies should also be considered (e.g. delay for paying taxes). (OECD, 2020).

#### **4.6. Smart campaigns to invite tourists back**

The image of the destination should be restored after the crisis situation. Place branding, smart campaigns can be good tools to attract tourists back. (Avraham, 2015, Avraham, 2016, Ritchie et al., 2004, Scott et al., 2008). The above mentioned steps are inevitable to survive the present, unexpected crisis situation.

The lessons of the former epidemics can be used for the industry, the governments, international organizations to help to discover from the tremendous losses of the sector. Future research should assess the possible campaign and image-restoration strategies of different countries.

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## THE SOCIAL SYSTEM IN BULGARIA FACING A PARTICULARLY NEW CHALLENGE IN A PANDEMIC PERIOD

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### ABSTRACT

*The article tries to address the changing social processes in the pandemic situation that has occurred in Bulgaria and around the world. Possible interpretations of operating in the current critical situation are examined and a parallel is sought with similar situations in previous periods. An attempt is made to partially analyze the emerging critical processes in the labour market.*

**Keywords:** *Social system, Labour market, COVID 19, Pandemic, Employers*

### 1. INTRODUCTION

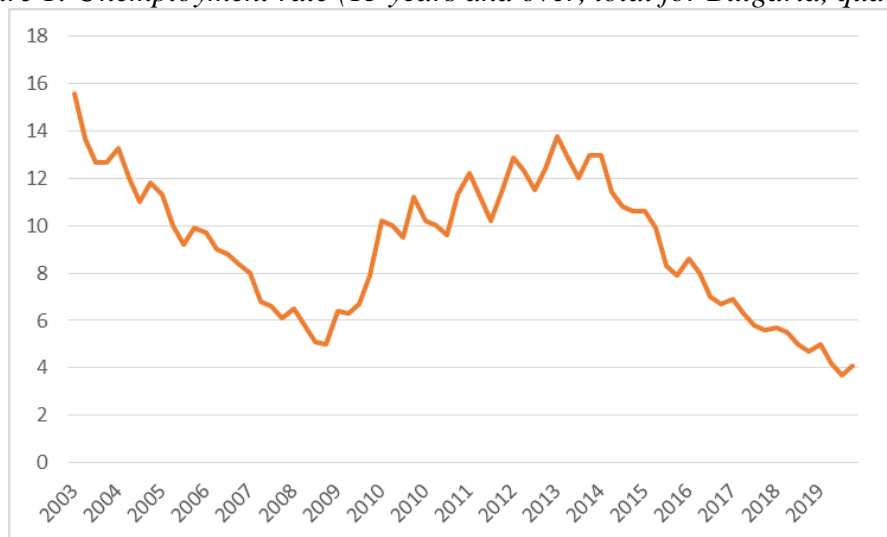
Bulgarian social system, whether we admit it or not, is facing a serious test. Of course, it has experienced much more difficult times, especially in the years of the active political and economic transformation after the change of the social and political system in the late 1990s. Since 1989 it has been in crisis situations a few more times in the following years thereafter. A cyclic recurrence of the deformations of its functions could not be substantiated. However, groups of factors affecting it in one way or another can be distinguished. To a greater extent, they depended on the ability of the economy to bear or not certain burdens. In some cases these burdens were counterbalanced by the natural course of particular events and processes, while in other situations a set of remedial measures and programmes were used to restore the viability of the stalling economic processes.

### 2. THE SOCIAL SYSTEM IN BULGARIA FACING A PARTICULARLY NEW CHALLENGE IN A PANDEMIC PERIOD

Placed in a rapidly changing environment, the social system in Bulgaria reacts slowly and with difficulty to the new different situation that has emerged. Even with up-to-date mechanisms for reporting relevant changes, it is, at least at this stage, incapable of responding adequately and reasonably to the pandemic situation created by COVID 19. To some extent this is anticipated by the experts in this field, because they are well aware of the decision-making mechanism at national and European level. A process that is relatively long and not particularly flexible to meet society's expectations. The combination of the effects of a great number of factors on our existing social system will force it to take fast decisions during the crisis. Everyone is aware of the fact that making fast decisions is quite risky because they are objectively not backed up by an accurate analysis of the situation and the apparently positive outcomes we expect sometimes have a sufficient number of negative consequences. Labour market fluctuations have already begun and they are obviously covered up by the palliative measures taken by employers aiming to maintain a state of equilibrium for a longer period of time. Even not studied, processes are moving so fast and are so clearly visible that we cannot fail to find out the critical components. In this connection, a number of examples can be given, such as the difficulty of moving people and goods, limited access to a wide range of services, including the guaranteed by the state similar activities carried out remotely or semi-remotely at a slow pace, which not only makes it difficult, but also impedes the normal development of economic processes. This is just a brief touch to the situation that has already occurred and analyzing it both in particular and in depth

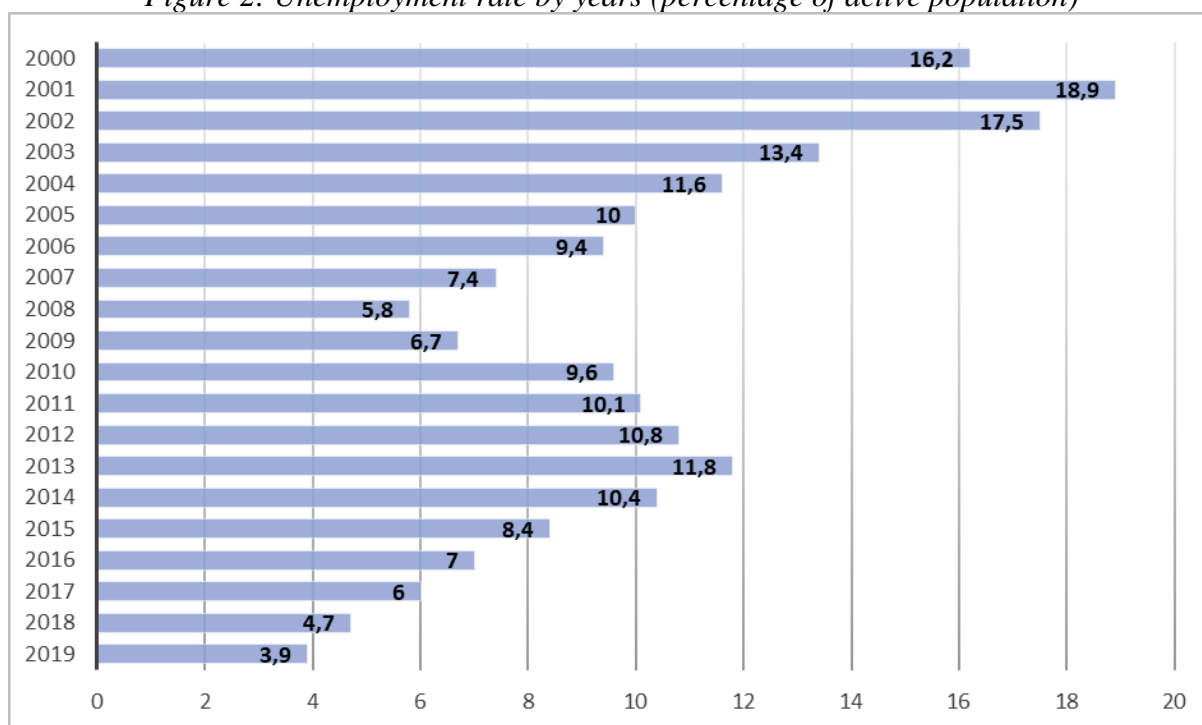
would give a much clearer and more accurate picture and it will certainly be in a sufficiently critical phase. Unfortunately, in times of crisis or emergency, we do not have enough time to do this notably valuable job and to achieve a good analysis that helps to make sound and correct decisions. The policies we use to intervene in the labour market are regarded as passive and active. The first group includes precise regulations which in one form or another have been applied for more than 30 years. Over this period, only the mechanism of determining the unemployment benefit has been changed, or a larger amount of cash flows (again in the form of a cash benefit) has been directed to one target group or another. In the post-1989 period, for example, it was accepted that young graduates should be supported and stimulated to find a suitable job by cash benefits for a fixed period (up to 6 months). In the subsequent period, this mechanism was abolished and options for incentives under another mechanism were sought. In periods of dramatic increases in unemployment rate (Figure 1-2) (2020-a) or in massive layoffs of large groups of people and ‘quelling’ social discontent, benefits were paid off in a lump sum for the whole period, and it was expected that this would help to set up small family businesses. Under difficult conditions, this did not actually happen and the expected impact on the primary local labour markets was either temporary or not realized at all. This mechanism is practically impractical in the current situation, or if a similar option is sought, it should be developed to satisfy those groups of people who would not be able to manage without this type of benefit in the initial phase of the crisis (survival benefit).

*Figure 1: Unemployment rate (15 years and over, total for Bulgaria, quarterly data)*



Source: NSI

In the current situation, the mechanism of passive support could be improved or partially changed, although the result of these actions would not be the expected one or will not respond to the current difficult social situation at all. The effects we would anticipate from a change in active social policies are much more interesting. In the general sense of the term, they are expected to be sufficiently flexible and to respond to expectations, critical situations, or negative processes. There is no time for a detailed analysis. However, it is obvious that they will directly or indirectly affect almost all sectors of the economy. The current tools of the so-called active policy rely primarily on the programming approach, taking advantage of the potentiality of a set of projects. Such competitiveness created expectations and attitudes during the different programming periods that projects would become better and more successful while the result would increasingly affect the respective group of users. The question now is whether this is possible in the current situation and whether we have enough time to implement a similar mechanism.

*Figure 2: Unemployment rate by years (percentage of active population)**Source: Eurostat*

The temporary employment programmes (much more important in small municipalities) are recollections from the recent past. They were used as economic and political tools to satisfy the need for engaging a large number of people in community service activities and to give the same people the opportunity to earn some income. This gave some reassurance to both government and local authorities that employment would be offered to those who were out of the labour market for a long time. Another issue is how sufficiently substantiated this activity was. Processes of mass layoffs of labour force have not been registered yet on the labour market, rather possibilities of labour legislation for collective paid leave or for determining the situation as a production downtime are used. In fact this would be great if it is evident that the critical situation will end in the foreseeable future. Even if we assume that in the next three months the pandemic situation will be overcome, there will be a recovery period of not less than a few months, and for some of the economic entities even much longer. Maintaining a relatively good situation on the labour market in Bulgaria is possible for a very short period of time, and as long as these processes are already underway, it can be anticipated that a highly problematic and critical situation will occur in a month or two at most. Undoubtedly, people's lives and health are of paramount importance, but it is also undeniable that these people must continue living in a certain social comfort. Both circumstances arise regardless of the fact whether we anticipate them and whether we are prepared for them. And if we are currently experiencing serious problems with limiting the scope for spreading a disease while trying to protect our health system from collapse, we should not forget that this system is also part of the functioning social system and the ongoing social processes. Without any delay, we must think about all the other elements of our social system. Experts, as well as everyone else, are aware of the fact that these elements cannot function on their own. Obviously, we make crisis decisions and take measures in one direction only – the health system. The other elements of the system still operate in the usual way and rhythm. Even with a delay, the processes will occur in the other elements of the system as well. They are also vulnerable, in some cases even at a greater extent. Here is another element of the social system's functions – the educational system in its distance

form of learning (Terziev, Bogdanova, 2019). Some politicians and even experts say that we have made a leap in that direction, something that would have cost us at least ten years in the ordinary course of events. This comment refers to the fact that the system of primary, secondary and higher education functions in a distance form of learning, or at least that is what the governing bodies of these systems expect. It is difficult to accept that this 'leap' is as successful as it is presented to us. Without arguing against the potential of digital education and distance learning, it should be noted that in addition to technological and technical preparation, it requires the so called social preparation i.e. how and in what way to deliver what needs to reach the users digitally – pupils, students, workers or, generally speaking, associates. The good interactive methods, interactive classrooms, shared common electronic space are all a possibility, although not always the best one. Each party must be well prepared for both delivering and obtaining knowledge. It's not about conveying information, but about knowledge. This process seems to be quite easy and pragmatic for people who have sufficient experience in this field. However, to a certain extent traditional teachers, and not only teachers lack skills in this direction (Terziev, 2019a-h).

### 3. CONCLUSION

In recent years, a lot of research has been done on the processes of social adaptation, which are quite difficult and not always successful. We have a similar experience in Bulgaria, in fact not a very good one, in the process of reducing the Bulgarian Army staff and the subsequent dismissals of highly qualified specialists, tens of thousands who have failed to be successful in the primary labour market. After a process of social isolation, which may take another month, two months or even more, a great number of people will need specialized help and an adaptive process, which may be accompanied by other critical situations and negative consequences. This is just an oblique reference to the whole complex of problems that will accompany the already qualitatively new and different social process, which requires very precise and measured actions and the expertise of a large number of professionals who must create a crisis action plan in this direction, as it is obvious that the currently developed ones are either not working or are only partially applicable.

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## PARAMETRIC DESIGN OF SPUR GEAR

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### ABSTRACT

*Gears are machine parts used to transfer torque from one shaft to another. Gears are widespread and their application is indispensable in all industries that produce different drive mechanisms. Each pair of gears makes one transmission, so the transmission can be single-stage or multi-stage. Like other mechanical transmissions, they are usually used to reduce the speed from the drive shaft to the driven shaft. The shape of the gears depends on the relative position of the drive shaft and driven shaft. During rotation, gear teeth are periodically in mesh, and the magnitude of the forces acting on them is constantly changing. Except of the basis on certain norms, the gear calculation is also based on experimentally determined coefficients, but lately, experimental determination is increasingly being replaced by computer numerical analyses, which are cheaper and faster methods. In order to obtain accurate and reliable results of numerical analyzes, it is necessary to have the most accurate three-dimensional gear geometry. The tooth profile is determined by mathematical curves whose final shape depends on several input parameters. The change of each parameter implies a series of computational operations that recalculate the point coordinates of the curves in order to describe the tooth geometry. By parameterization, this process is automated and significantly accelerated, and the obtained gear geometry satisfies all the requirements related to precision and accuracy. CATIA software does not contain a library of gears, so they need to be modeled from scratch each time, which is time consuming and tedious. Often 3D gear models are simplified or approximated, which is why their precision and accuracy are no longer sufficient to generate reliable results from the performed numerical analyzes. This paper presents a procedure of parametric design of spur gears using the CAD software application CATIA V5.*

**Keywords:** *Spur gear, Parametric design, CATIA V5 software, Involute toothing*

### 1. INTRODUCTION

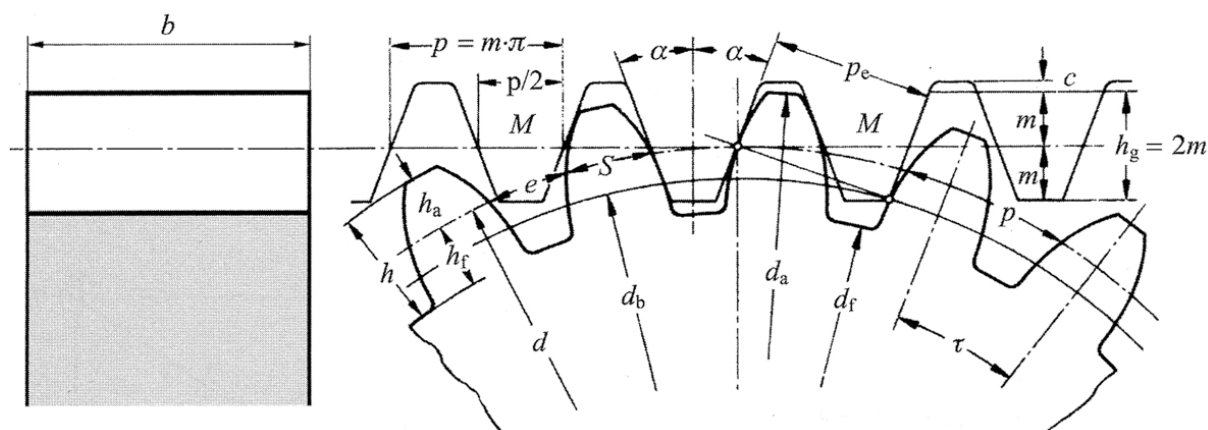
Of all the machine elements used to transmit power and motion, gears are the most common and widely used. Due to its advantages such as relatively simple gear design and the insensitivity of the gear ratio to minor changes in axial spacing, the flank profile of the gear tooth is most often made in the form of an involute.

Modern CAD systems offer various functions for modeling the most complex geometric shapes. However, there are also some curves whose shapes need to be approximated or determined manually which is not only tedious but also very inefficient. The involute is one of those curves. Parametric modeling is a process that automates the design of even the most complex geometries. CATIA V5 is a complex software application that offers advanced 3D modeling techniques. It contains libraries with standard parts and offers the possibility of creating user-defined libraries of various parameter elements. Since the gears are not contained in the libraries with standard parts, they need to be modeled every time from the beginning, which is fully automated in the parameterized modeling process. In addition, the modeling process becomes faster and more accurate.

## 2. CHARACTERISTIC PARAMETERS OF SPUR GEARS

Spur gears are gears in which the middle line of the basic (standard) profile is tangential to the dividing circles. (Decker, 2006., 411). The characteristic parameters of spur gears are shown in Figure 1., while Table 1 shows input parameters which are used in modeling process and parameters that are obtained by calculation based on the input parameters.

Figure 1: Characteristic parameters of spur gears



Source: Decker, 2006.

Table 1: Parameters used for modeling process

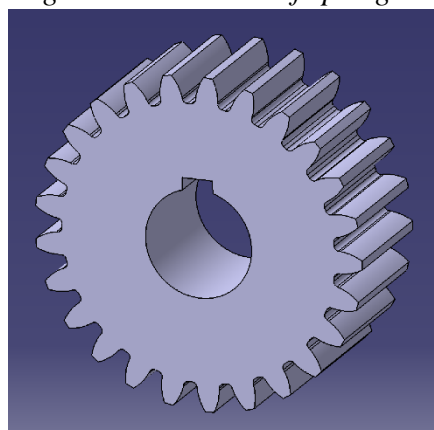
Input parameters			
Symbol:	Unit:	Description:	
$m$	mm	module	
$z$	-	number of teeth	
$\alpha$	°	pressure angle	
$b$	mm	face width	
$d_v$	mm	bore diameter	
Parameters obtained by calculation			
Symbol:	Unit:	Equation:	Description:
$d$	mm	$d = z \times m$	standard pitch diameter
$d_a$	mm	$d_a = d + 2 \times h_a$	outside circle diameter
$d_f$	mm	$d_f = d - 2 \times h_f$	root circle diameter
$d_b$	mm	$d_b = d \times \cos \alpha$	base circle diameter
$h_a$	mm	$h_a = m$	addendum
$h_f$	mm	$h_f = m \times (1 + c)$	dedendum
$c$	mm	$c = 0,25 \times m$	bottom clearance
$\rho_f$	mm	$\rho_f = 0,38 \times m$	dedendum fillet radius
$z_g$	-	$z_g = round(2/\sin^2 \alpha)$	theoretical limit number of gear teeth
$t_2$	mm	ovisno o $d_v$	keyway height
$b_u$	mm	ovisno o $d_v$	keyway width

Source: Šercer, own production

### 3. SPUR GEAR MODELING PROCESS

The CATIA V5 does not contain a command to draw directly an involute and it needs to be created. One way to calculate the coordinates of involute points is to use formulas to calculate the thickness of a tooth at any diameter. The second approach is based on the parametric calculation of coordinates and drawing the appropriate number of points of the curve through which the curve is drawn with the Spline command, and this approach is explained in detail in this paper. First, a surface was constructed which was then used for modeling the first tooth space. By rotating of this modeled surface  $z$  times (where  $z$  = number of teeth) around the axis of the gear, a gear model is obtained. Model of spur gear created by a parametric modeling procedure using the CATIA V5 software application is shown in Figure 2.

Figure 2: 3D model of spur gear



Source: Šercer, own production

#### 3.1. Defining input and calculated parameters

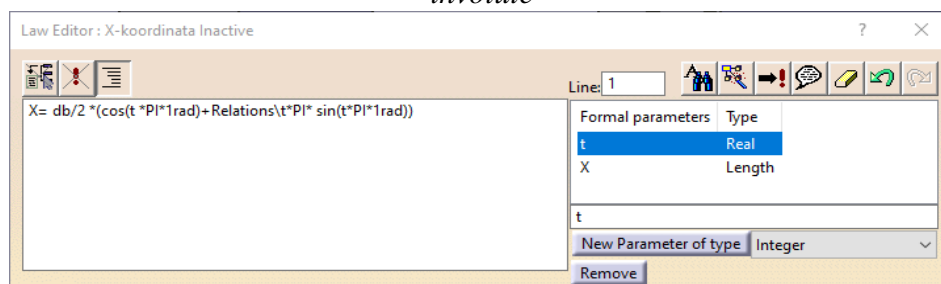
In the Knowledge palette it was necessary to select the Formula command and define the parameters according to Table 1. To plot the points through which the involute passes through, it was necessary to determine their coordinates, which were calculated from the equations of the involute circle in the Cartesian coordinate system. Each equation was entered separately in the following form with the Law command located in the Knowledge palette:

$$X = db/2 * (\cos(t * PI * 1rad) + t * PI * \sin(t * PI * 1rad))$$

$$Y = db/2 * (\sin(t * PI * 1rad) - t * PI * \cos(t * PI * 1rad))$$

When entering, it was necessary to set Real for parameter type  $t$ , and Length type for parameters  $X$  or  $Y$ , as shown in Figure 3.

Figure 3: Law Editor with equation and parameters for calculation X-coordinate points of involute



Source: Šercer, own production



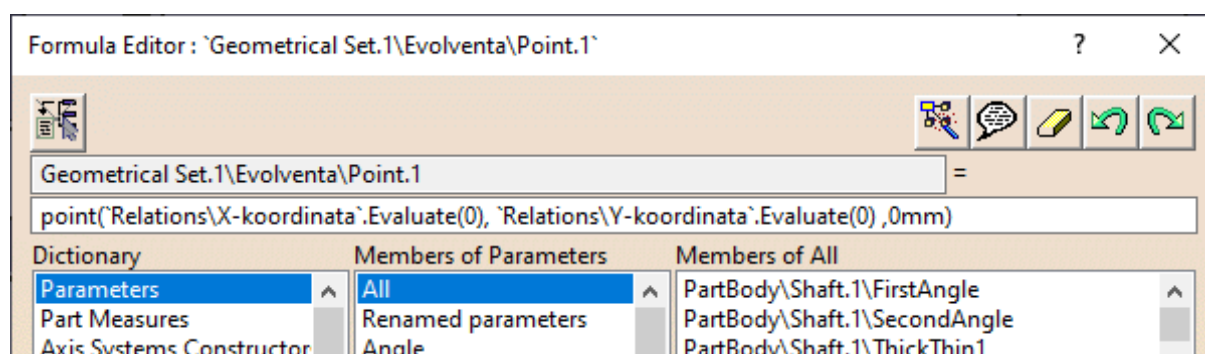
### 3.2. Drawing the points of the involute and drawing the Spline curve through the obtained points

The points and involute were constructed in the XY plane directly in the Generative Shape Design desktop, not in Part design, since Sketcher in Part design does not offer a curve extension tool. For the construction of the involute, the parameter  $t$  was used in the range from 0 to 0.5 with a step of 0.1, which means that the curve passes through a total of six points ( $N = 1$  to 6). This achieved satisfactory precision. The general equation for the construction of the points through which the involute passes has the form:

Point.N=point(`Relations\X-koordinata`.Evaluate( $t$ ),`Relations\Y-koordinata`.Evaluate( $t$ ), 0mm)

For construction of the first point ( $N = 1$ , parameter  $t = 0$ ) in the Wireframe palette, the Point tool was selected with type Coordinates, as shown in Figure 4. With the right-click in the field X= a menu was opened and Edit formula... was selected. In the offered field it was necessary to enter `Relations \ X-coordinates`. Evaluate (0). Analogously, the procedure was repeated for the Y coordinate and the value of the Z coordinate was set to zero. Further, the procedure was repeated by changing the value of the Evaluate ( $t$ ) parameter for the other five points, changing the parameter  $t$  from 0.1 to 0.5 with a step of 0.1. Through the obtained points an involute was constructed using the Spline command from the Wireframe palette where it was recommended to select points from Point.1 to Point.6 in the construction tree.

Figure 4: Formula Editor with formula to calculate the coordinate of a point determined by the parameter  $t = 0$

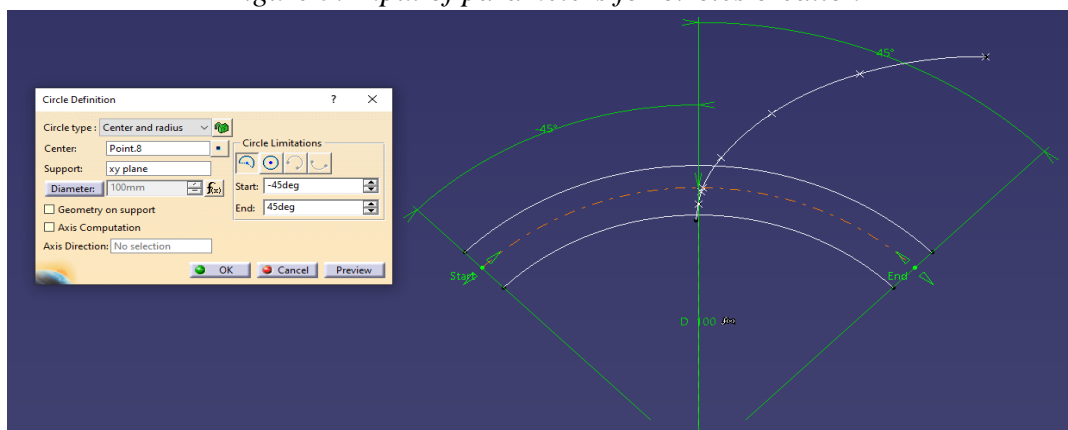


Source: Šercer, own production

### 3.3. Tooth profile design

The part of the arc of the pitch, outside and root circle required for creating the tooth geometry for all three circles was drawn with the command Circle in the Wireframe palette, selecting the Center and radius option in the Circle Definition window for the circle type (Figure 5). In the Center field, with right-click the menu was opened and the Create Point option was selected. The X, Y and Z coordinate values were set to zero. In the same window, in the Circle Limitations area, the Part Arc icon was activated and in the Start field the value -45 deg was entered, and in the End field 45 deg. Depending on the arc of the circle being constructed, in the field with right-click the menu was opened in which Edit formula... was selected and the appropriate parameter ( $d$ ,  $d_a$  or  $d_f$ ) in the Diameter field for each circle was entered. The XY plane was set in the Support field. The involute of the tooth flank starts from the base circle, which lies outside the root circle. The part between the base and root circle does not serve to transmit force and motion and can be created arbitrarily (Decker, 2006, 414).

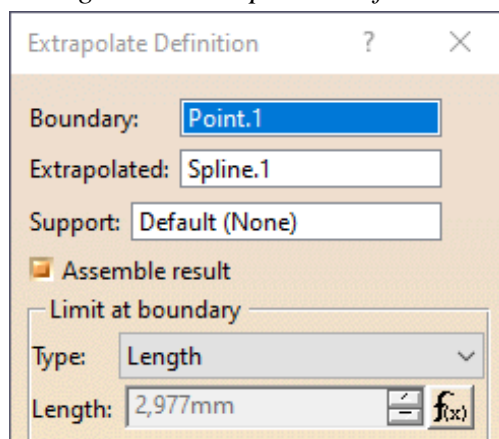
Figure 5: Input of parameters for circles creation



Source: Šercer, own production

Depending on the pressure angle  $\alpha$ , for a certain number of teeth the root circle  $d_f$  has a smaller diameter than the base circle  $d_b$  and therefore it was necessary to extend the involute using the Extrapolate command in the Operations palette (Figure 6).

Figure 6: Extrapolate Definition

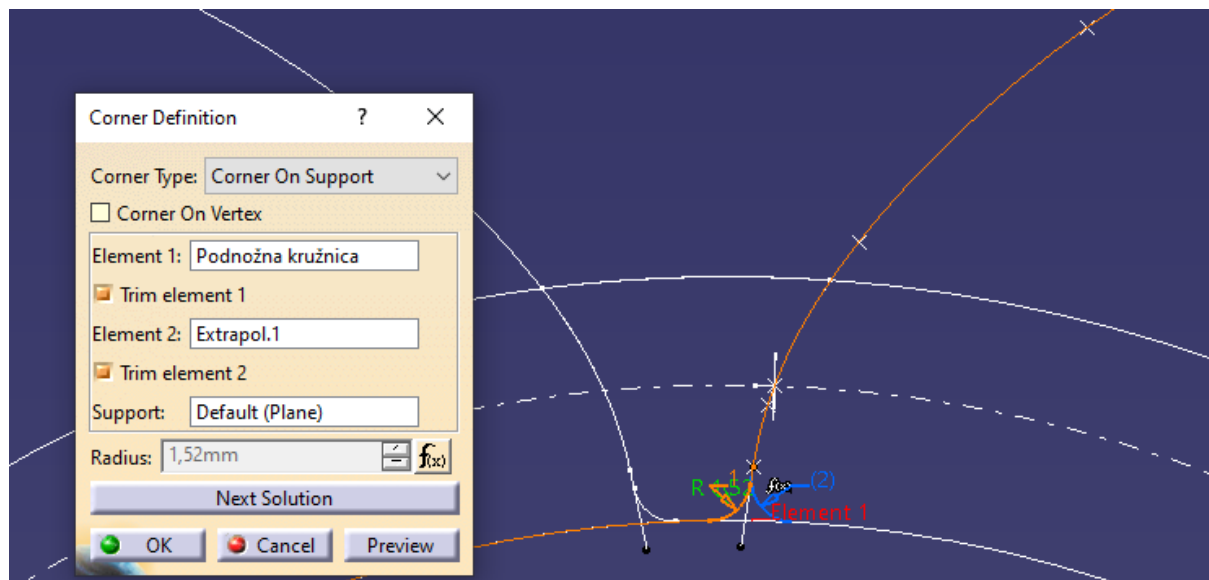


Source: Šercer, own production

In the Extrapolate Definition field for Boundary in the construction tree Point.1 was selected, and for Extrapolated Spline.1 curve. In the Limit at boundary area type Length was selected, and in the Length field the formula  $1.5 * \text{abs}(d_b / 2 - d_f / 2)$ , by which the involute was extended by the absolute value of the difference between the radius of the base and root circle increased by 1.5 times, was entered. In order to obtain flank geometry of the adjacent tooth, the resulting involute was mirrored. In order to set the mirror plane, it was first necessary to set up an auxiliary plane passing through the Z axis and to construct a reference point as the intersection of the involute and the pitch circle. The Intersection command from the Wireframe palette was used to construct the reference point, where the involute was selected for the First element, and part of the arc of the pitch circle for the Second element. After that, the Plane command from the Wireframe palette was used to set the auxiliary plane (Plane.1) through the reference point and the Z axis. The mirror plane (Plane.2) was set so that it passes through the Z axis and was deviated from the auxiliary plane by an angle whose value is equal to  $-90/Z$ . After that, with the Symetry command from the Operations palette, it was necessary to mirror the extended involute in relation to the mirror plane. Using the Corner command from the Wireframe palette, the unnecessary parts of the involute and arcs of the circle were cutted off in two steps. In the first step, the extended part of one of the involutes for Element 1, and the part of the arc of the root

circle for Element 2. The parts of the element to be retained were selected in the desktop by clicking on them. In the Corner Definition window, the options Trim element 1 and Trim element 2 were turned on, as shown in Figure 7.

Figure 7: Root (tooth) fillet creation



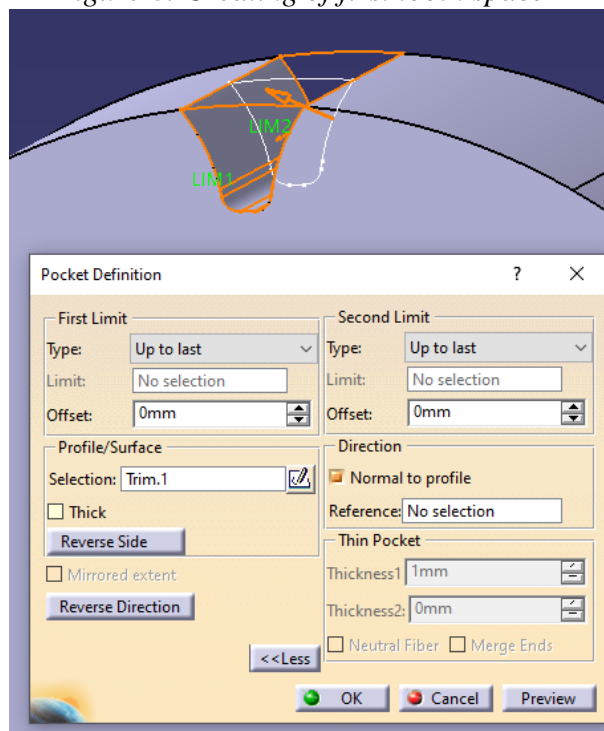
Source: Šercer, own production

### 3.4. Gear body and tooth modeling

In the first step, it was necessary to model the full body of the gear in which the teeth were later shaped. The gear body was modeled in the Part design desktop with the Shaft command from the Skech-Based Features palette, for which it was first necessary to draw a sketch in the XZ plane. The sketch of the Sketch.1 consists of a rectangle whose sides are parallel to the X axis determined by a parameter of the radius length of the outer circle  $d_a/2$ . The length of the sides parallel to the Z axis was determined by the face width parameter  $b$  and the center of one side was set to the origin. The gear body was formed by rotating the sketch Sketch.1 by  $360^\circ$  around the Z axis. Teeth were modeled according to the principle of particle separation processing using the Pocket command from the Skech-Based Features palette which was used to create the first tooth space (Pocket.1). Since the origin was located in the center of the gear in the Pocket Definition window, it was necessary to set Up to last for the type in the fields First Limit and Second Limit (Figure 8). After that, with the Circular Pattern command from the Sketch-Based Features palette, the tooth space Pocket.1 was rotated  $z$  times (where  $z$  = number of teeth) around the Z axis (Figure 9). It was necessary to set Complete crown on the list Axial Reference for Parameters:. In the Instance(s) field with the right klick menu was opened and Edit formula... was selected. In the provided field the number of teeth  $z$  was entered. For Reference Direction it was necessary to set Z axis.

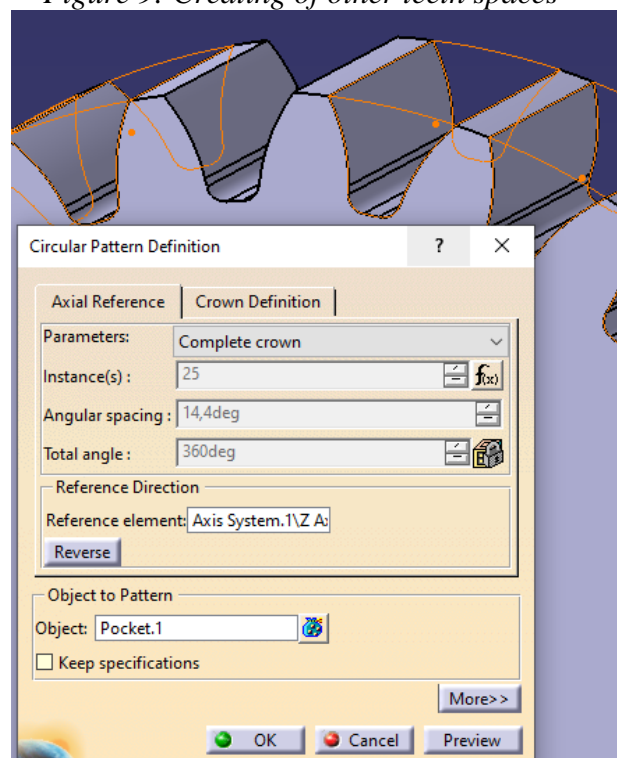
Figure following on the next page

Figure 8: Creating of first tooth space



Source: Šercer, own production

Figure 9: Creating of other teeth spaces



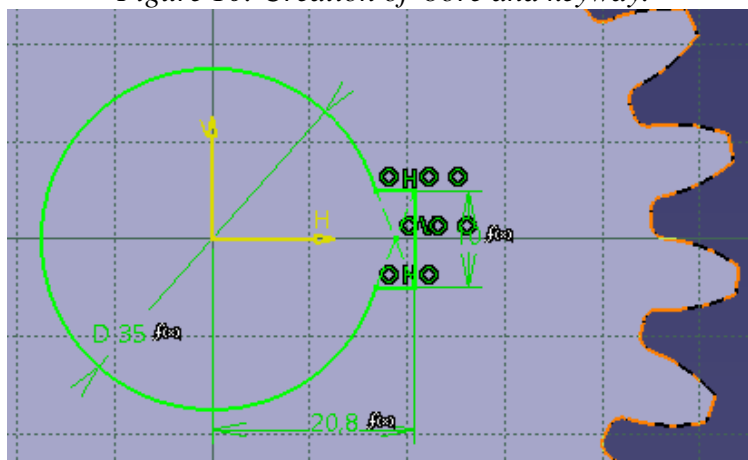
Source: Šercer, own production

### 3.5. Creation of bore and keyway

Bore and keyway were modeled with the command Pocket from the Skech-Based Features palette for what it was first necessary to make a sketch on one of the side surfaces of the gears (Figure 10).

The parameter  $d_v$  was used for the diameter of the shaft in the sketch, what had to be entered manually, while the dimensions of the keyway, depending on the entered diameter of the shaft  $d_v$ , were automatically calculated by values according to DIN 6885 (HRN M.C2.060 do 062).

Figure 10: Creation of bore and keyway.



Source: Šercer, own production

### 3.6. Notes related to set restrictions

In order to prevent the entry of incorrect and inappropriate input data, certain restrictions were set.

#### 3.6.1. Selection of the default module value

The selection of module  $m$  was made via the drop-down menu in which are the standard values of the module according to HRN M.C1.015, row I, for values from 1 do 40 mm. Other values cannot be selected.

#### 3.6.2. Theoretical limit number of gear teeth

In order to avoid undercutting, it was impossible to enter the number of teeth less than the limit, and the theoretical limit number of teeth was assumed as the reference value. First, a rule that sets the lower limit of the range of the number of teeth  $z.inferiorRange$  to theoretical limit number of teeth  $z_g$ , needed to be defined. In the desktop Knowledge Advisor in the palette Reactive Features it was necessary to select a command Rule and set the following condition in it:

$$z.inferiorRange = z_g.$$

After each entry of the number of teeth  $z$ , which was for a given pressure angle  $\alpha$  less than the limit number of teeth  $z_g$ , a warning was displayed and the program returned the number of teeth  $z$  to the previously set value.

#### 3.6.3. Tip tooth sharpness

The limited number of teeth downwards is one of the disadvantages of involute gearing. A larger angle of the pressure line lowers the limiting number of teeth, but can lead to tip tooth sharpness even below the outside circle (Decker, 2006., 415). For this reason, the angle of the pressure line can be set in the range from  $10^\circ$  to  $35^\circ$ . Values outside the specified range cannot be set.

### 3.6.4. Values for calculation of the key dimensions

In the desktop Knowledge Advisor in the pallette Reactive Features it was necessary to select a command Rule and to enter a code to calculate the dimensions of the key;  $b_u$  and  $t_2$  depending on the shaft diameter  $d_v$ . For shaft diameters greater than or equal to 6 mm and less than 10 mm, the code looks like this:

if  $d_v \geq 6\text{mm}$  and  $d_v < 10\text{mm}$

{  $t_2 = 1\text{mm}$

$b_u = 2\text{mm}$  }

if  $d_v \geq 10\text{mm}$  and  $d_v < 16\text{mm}$

{  $t_2 = 1.4\text{mm}$

$b_u = 3\text{mm}$  }

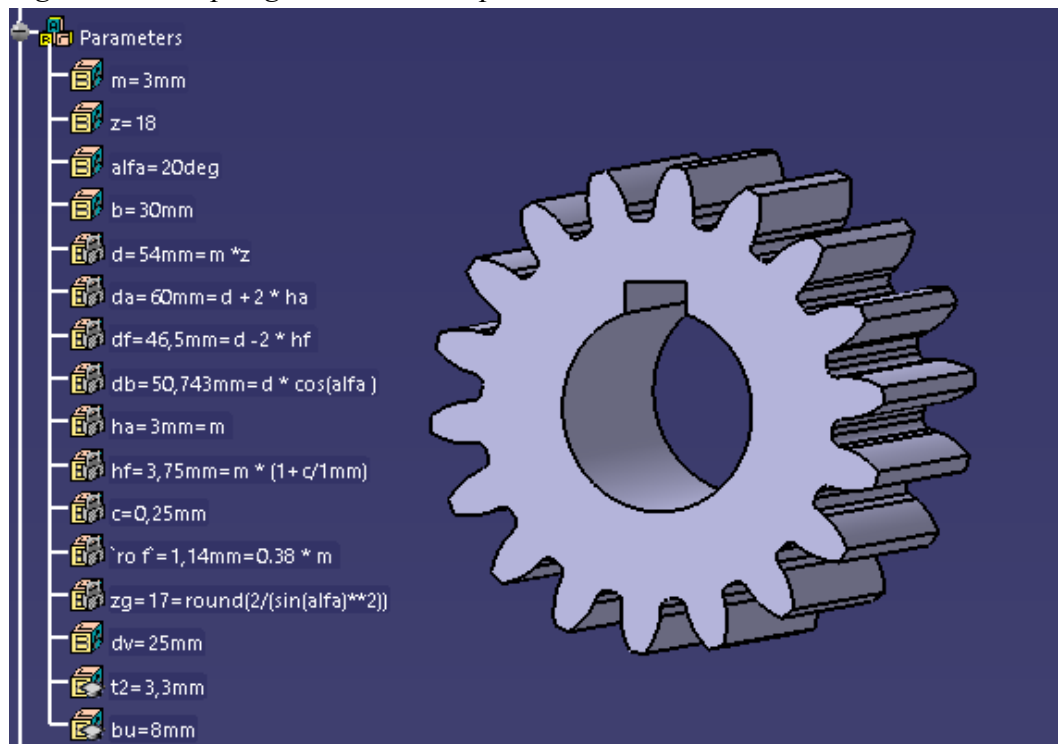
In the same way, according to DIN 6885 (HRN M.C2.060 do 062) it was necessary to enter the rest of the code for the remaining values of the shaft diameter  $d_v$ . In order to prevent the input of too large shaft diameter (in relation to the geometry of the gear), in the same rule it was necessary to set the upper limit of the shaft diameter range  $d_v$  according to the experientially determined expression:

$$d_v.\text{SuperiorRange} = d_f - 3 \cdot t_2.$$

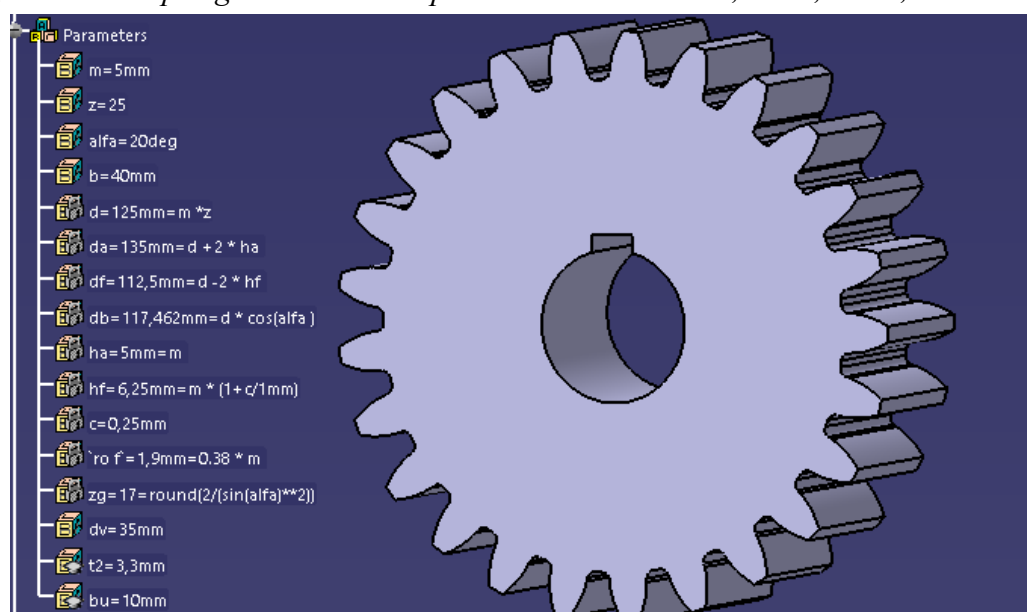
## 4. INPUT OF THE PARAMETERS

All parameters required for modeling a particular gear are entered and selected in the drop-down menu in the Parameters group in the construction tree. According to Table 1, certain module  $m$  must be selected from the drop-down menu. After that, the number of teeth  $z$  and the pressure angle  $\alpha$  must be entered. The standard pressure angle is  $\alpha = 20^\circ$ , and the program allows the entry of values in the range from  $10^\circ$  to  $35^\circ$  as explained in section 3.6.3. Tip tooth sharpness. After that, the values for face width  $b$  and finally for bore diameter  $d_v$  are entered. Figures 11 and 12 show 3D spur gear models with different parameter settings.

*Figure following on the next page*

Figure 11: 3D spur gear model with parameters:  $m=3$ ,  $z=18$ ,  $\alpha=20$ ,  $b=30$  i  $dv=25$ 

Source: Šercer, own production

Figure 12: 3D spur gear model with parameters model  $m=4$ ,  $z=25$ ,  $\alpha=20$ ,  $b=40$  i  $dv=35$ 

Source: Šercer, own production

## 5. CONCLUSION

In this study, the procedure of parametric modeling of spur gears using a software application CATIA V5 was explained. Modern technology is inconceivable without reliable and precise machines whose production depends not only on quality but greatly also on price. The installed parts of the machine must performed increasingly stringent criteria such as in a specific example the transmission of as much power as possible with as little mass and dimensions as possible. In order to produce quality reliable machine parts it is necessary to perform numerous tests.

Experimental tests are reliable, but they also represent a significant financial cost due to the large amount of material and time spent. The development of computer technology has enabled the implementation of the most complex numerical analyzes in a relatively short time, which obtain very accurate and reliable results. One of the basic prerequisites for obtaining accurate and reliable results is a 3D gear model that must match the geometry of the actual gear. It is certainly possible to obtain the required results by manual modeling, but such a procedure is slow and there is a high probability of errors during changes. Removing them requires a lot of effort and time and often the whole process needs to be started from scratch. The parametric modeling presented in this paper covers all the necessary parameters, and with this procedure the probability of error occurrence is practically reduced to zero. This paper represents the basis for future work on the development of the procedure of parametric modeling of helical gears and attention should certainly be paid to the shift of the profile as well as the parametric modeling of the assembly, ie gear pairs.

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## THE BIOCHEMISTRY OF THE ENDOCANNABINOID SYSTEM

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### ABSTRACT

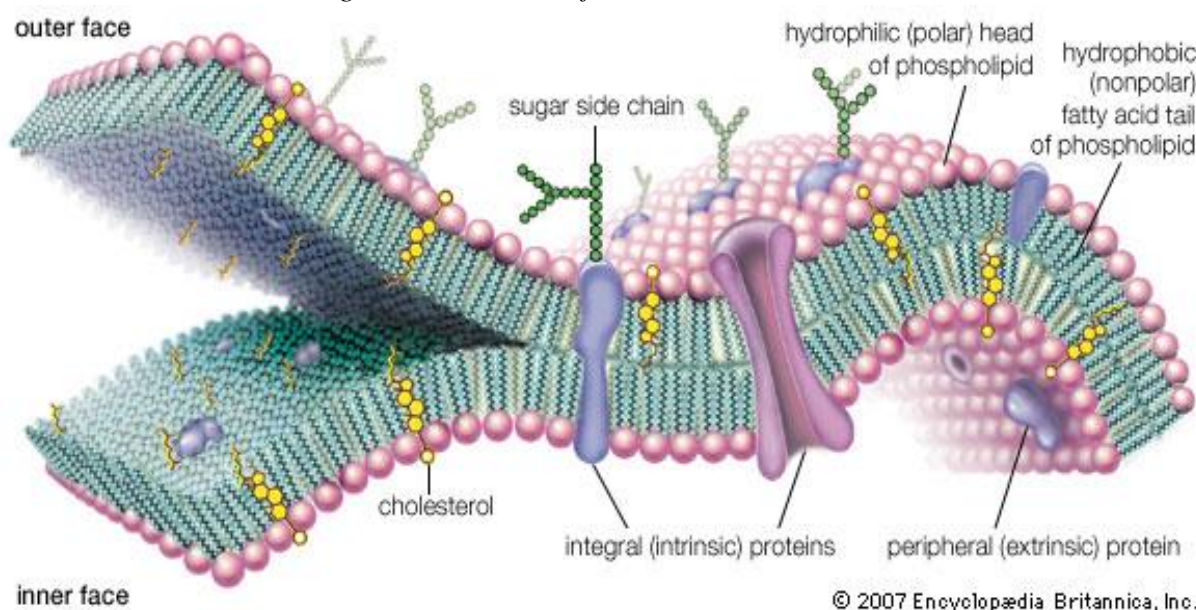
*The discovery of the endocannabinoid system (ECS) has not only increased our understanding of the effects of plant cannabinoids, but also increased our understanding of human biochemistry as well as opened up avenues towards new therapeutic targets. Phytocannabinoids as well as their synthetic counterparts are known to engage with our endocannabinoid system; hence our understanding of the basic biochemistry of this pivotal signaling system offers insights into beneficial and therapeutic uses of these molecules. There is a plethora of research data and scientific peer-reviewed papers on the topic of cannabinoids, the ECS and health/disease. Much data has been gathered from epidemiological and biomedical research, thus providing patients and medical professionals with good foundations for the use of cannabinoids in medicine. But understanding the biochemistry of the ECS and the role this signaling system plays in human physiology is the key to the proper use of these potent molecules.*

**Keywords:** Biochemistry, Receptors, Endocannabinoid system, Cannabinoids

## 1. INTRODUCTION

From a biochemical perspective the human body is a complicated system. If we look only at one basic unit of life- the cell – biochemistry is already rather complex at this level. Cells, in their nature, are not simple building blocks of the human body, let alone unconscious and static as bricks in a wall. Cells can detect what is going on around them, and can respond to a number of cues from their neighboring cells and environment in real-time. At any moment, cells are sending and receiving millions of messages in the form of chemical signaling molecules and as well as host over 10.000 biochemical reactions that occur concurrently within them. All these processes are meticulously coordinated and tightly regulated within each cell. And each cell has mechanisms to ensure that energy is reasonably used only for vital processes only. But in our human biochemistry a single cell is not an individual unit of life, but rather part of individual tissues, organs or physiological systems. So for a cell to function as a part of a whole system, it is vital for the cell to communicate with its environment. A cell is divided from its surroundings by a semipermeable membrane, a lipid bilayer with embedded proteins. The basic function of the cell membrane is to protect the cell from- as well as facilitate its communicate with the immediate surroundings. The cell membrane also controls the movement of substances in and out of cells. The membrane utilizes its selectively permeability to effectively control movement of ions and organic molecules, ions and organic molecules. In addition, cell membranes are involved in a variety of cellular processes such as cell adhesion, ion conductivity and cell signaling.

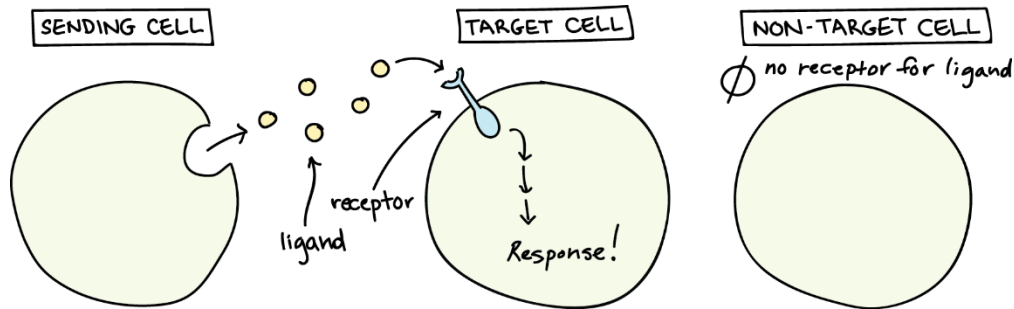
*Figure 1: Structure of the cellular membrane*



Source: <https://www.britannica.com/science/cell-membrane>

Cellular communication is vital for all multicellular organisms. Essentially, the more complex and evolved organisms become, the greater the importance of their cellular communications. The basic setup for cellular communications or signaling is similar to all other communication systems in existence. We need to know what message we want to send (a signaling molecule) and to whom we want to send it (who has the right receptors or antennas). Cells typically communicate using chemical signals. These are different types of molecules (cannabinoids are just one of the many) produced by a sending cell and released into the extracellular space. There, the molecules can float – like messages in a bottle – over to neighboring cells or into circulation.

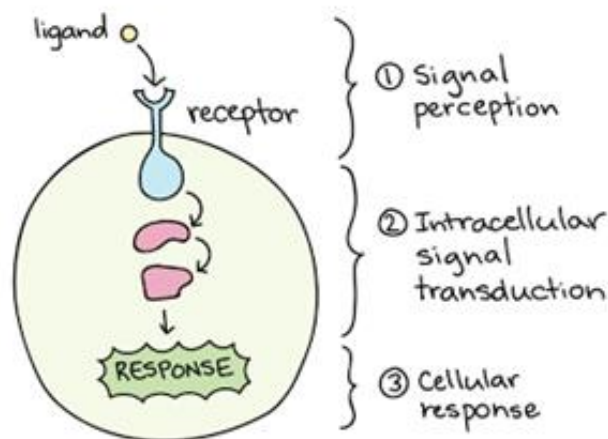
Figure 2: Schematic representation of cell signaling



Source: <https://www.khanacademy.org>

Not all cells can “hear” a particular chemical message. In order to detect a signal a cell must have the right receptor for that signal. When a signaling molecule binds to its receptor a shift takes place that triggers a change inside of the cell. Signaling molecules are often called ligands, a general term for molecules that bind specifically to other molecules (such as receptors). A signaling molecule and its receptor recognize each other based on a unique 3D molecular structure. In essence a receptor will bind a molecule if its structure fits the receptors binding site in a similar way as a key fits into a keyhole. If it is a match, the door will open and if not, nothing will happen. If a signaling molecule and a receptor are a match, a cascade of downstream reactions will take place, ultimately, leading to a change in the cell, such as alteration in the expression of a gene or even the induction of a new process, such as cell division, apoptosis and so on. Such communication not only enables the cells to respond to changes in the extracellular environment, adapt to these changes and thrive but also exchange signals between cells, tissues, organs, and whole body.

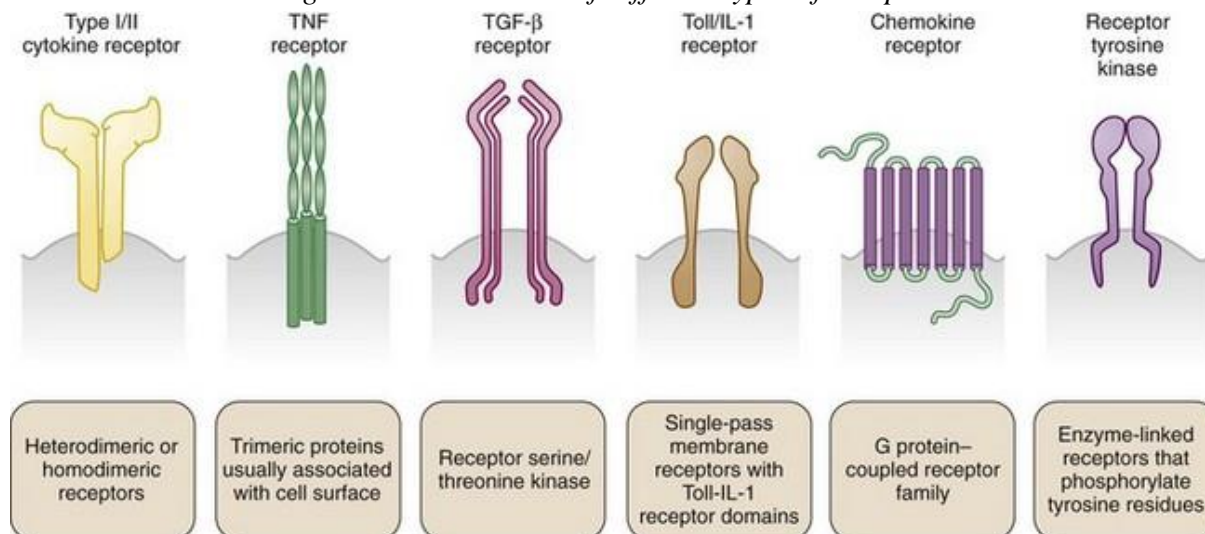
Figure 3: schematic representation of signal transduction



Source: <https://www.khanacademy.org>

Different types of cells have different sets of receptors. And the cells are very economical in this sense, each cell expresses on its surface only the types of receptors that are vital for their survival and only in the numbers that are needed. In cellular biochemistry there is never a molecule too many or a reaction too much; all of its functions are highly optimized and adjusted according to the environment, stimuli and needs. Each specific cell type in a human body has a specific set of receptors, and the types and density of the receptors can change during the life of a cell, depending on the conditions to which a cell is exposed.

Figure 4: 3D structure of different types of receptors



Source: Iain B. McInnes <https://musculoskeletalkey.com/cytokines/>

In 1988, more than 4 decades after the first phytocannabinoid was discovered (CBD) and its structures elucidated, the first cannabinoid receptor was found. The existence of cannabinoid receptors puzzled scientists. Moreover it was later shown that these receptors were abundant on the membranes of our cells. It did not make much sense that the human body would be so sensitive and fine-tuned to these molecules, since there is only little chance that we might encounter and consume cannabis in our lifetimes. Another 20 years passed before the discovery of endocannabinoids - the cannabinoids that are produced by the human body, in fact by all vertebrates. This was a major discovery that led to intense research into the role and functioning of this signaling system. So in a way the endocannabinoid system is comparable to the body's hormonal system or neurotransmitter system, although it is much more than that. The endocannabinoid system seems to be the enhanced version of an ancestral intercellular communication system that has been passed on evolution since plants appeared on the planet earth.

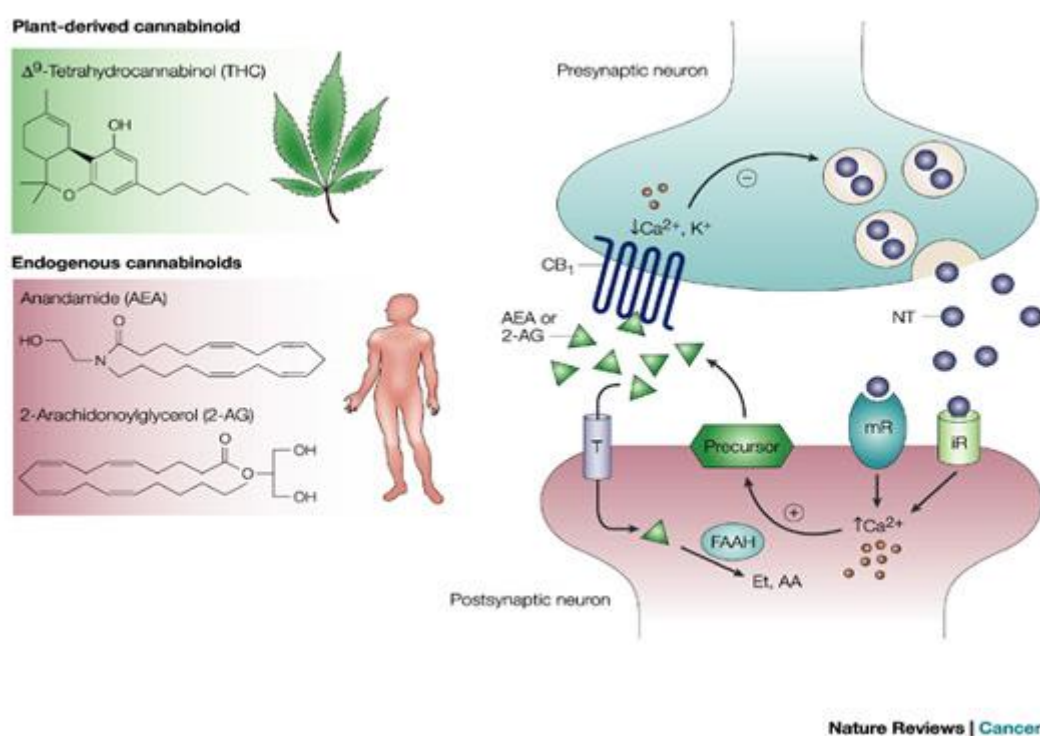
## 2. THE BIOCHEMISTRY OF THE ENDOCANNABINOID SYSTEM

All we now know about cellular signaling is true for the endocannabinoid system. We have cannabinoid receptors and ligands (cannabinoids). Taking into consideration that the research field of cannabinoids and endocannabinoid system is rather new and that the research was and is held back by legislation hurdles, we now know for sure is that we have at least 3 cannabinoid receptors: CB1, CB2 and CB3 (formerly known as the GPR55). There are several endocannabinoids known thus far, the best studied are the N-arachidonyl ethanolamide or anandamide and 2-arachidonoylglycerol or 2-AG (analogs to plant derived THC and CBD). For the production and the degradation of endocannabinoids we need enzymes that are pivotal for the optimal functioning of the endocannabinoids system. So the endocannabinoid system is composed of receptors, endocannabinoids and involved enzymes. Cannabinoids are essentially messenger molecules, their role is to send signals, convey a message and the underlying biochemistry of the functioning of endocannabinoid system is similar as for majority of signaling systems (described in previous chapter). The endocannabinoids anandamide and 2-AG are released upon demand from cell membrane-embedded phospholipid precursors. The primary biosynthetic enzyme of AEA is N-acyl-phosphatidylethanolamine phospholipase D (NAPE-PLD). 2-AG is biosynthesized by two isoforms of diacylglycerol lipase, DAGL $\alpha$  and DAGL $\beta$ . AEA and 2-AG work in a homeostatic fashion, thus they are broken down after they activate CB1 or CB2. AEA is catabolized primarily by fatty acid amide hydrolase 1 (FAAH1),



and 2-AG is catabolized by monoacylglycerol lipase (MAGL), and, to a lesser extent,  $\alpha,\beta$ -hydrolase-6 (ABHD-6), cyclooxygenase 2 (COX2), and FAAH1. So cannabinoids are not molecules to circulate in our system and be present in high concentration, rather they are synthesized where and when they are needed and then degraded. In this respect they differ from hormones for example. Their low physiological concentration was one of the reasons why it took researchers so long to prove the existence of endocannabinoids. There is another specificity to the mode of action of cannabinoids. They are retrograde messengers, sending the signal from the postsynaptic cell to the presynaptic. Cannabinoids are released from depolarized postsynaptic neurons presumably in a calcium-dependent manner and act retrogradely onto presynaptic cannabinoid receptors to suppress neurotransmitter release. So cannabinoids modulate neuronal excitability by inhibiting synaptic transmission. So these endogenously synthesized cannabinoids, but also phytocannabinoids and their synthetic analogs appear to act as retrograde signalling agents, reducing synaptic inputs onto the stimulated neuron in a highly selective and restricted manner. This being one of the reasons why cannabinoid receptors were discovered later than for example opioid receptors. Just as a comparison the major active ingredient of opium was discovered in 1799 and in 1973 its receptor, whereas THC as the active ingredient of cannabis was discovered in 1964 and the receptor in 1988.

Figure 5: Schematic representation of the endocannabinoid system (ECS)



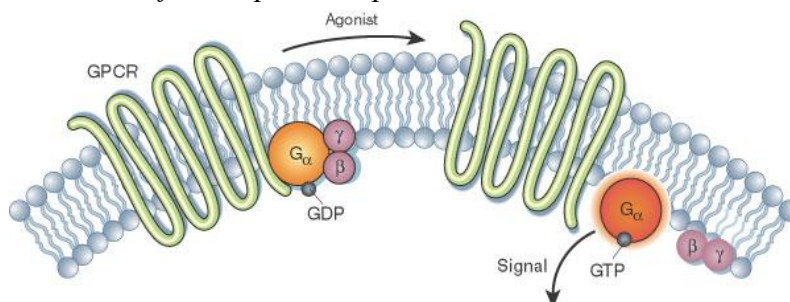
Source: <https://www.nature.com/articles/nrc3247>

## 2.1. Cannabinoids receptors

Now let's have a closer look at the cannabinoid receptors. What all three cannabinoid receptors have in common is that they are all G-protein coupled transmembrane receptors (GPCR). When a ligand (cannabinoid) binds to the GPCR it causes a conformational change in the receptor, which allows it to act as a guanine nucleotide exchange factor. The GPCR can then activate an associated G protein by exchanging the GDP bound to the G protein for a GTP. The G protein's  $\alpha$  subunit, together with the bound GTP, can then dissociate from the  $\beta$  and  $\gamma$  subunits to further affect intracellular signaling proteins or target functional proteins directly depending on the  $\alpha$

subunit type. GPCRs are an important drug target and approximately 34% of all Food and Drug Administration (FDA) approved drugs target this family of proteins.

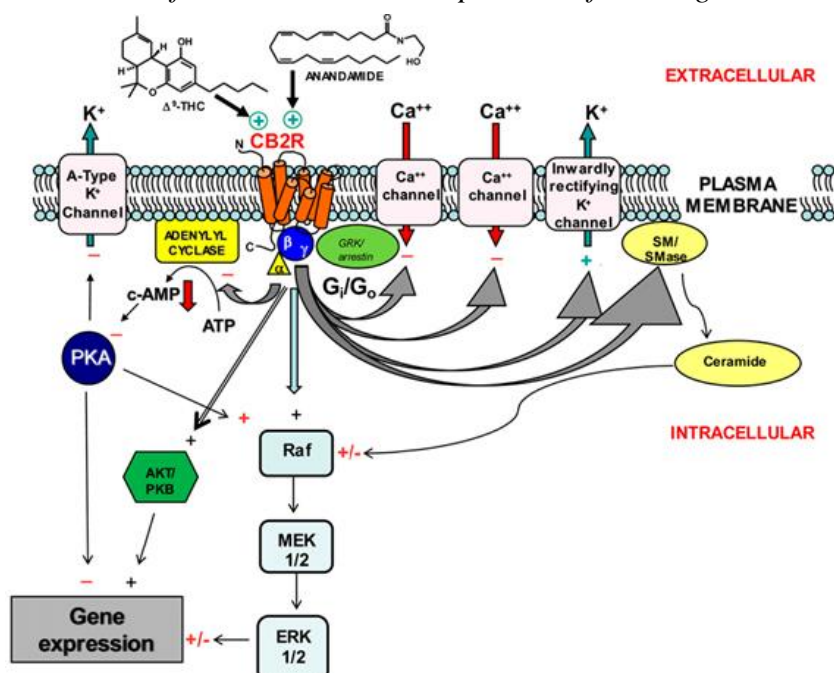
Figure 6: The structure of G coupled receptors or GPR's and their activation by agonist



Source: <http://gpcr.utep.edu/background>

So basically a part of the receptor is on the outside of the cell, facing the extracellular space (the environment) sensing changes in the concentration of cannabinoids, and a part of the receptor is on the inside of the cell (conveying the message on what is going on outside). All three receptors cross the membrane 7 times and are coupled with a G-protein that sends the signal towards the cell nucleus. Thereby enabling the cell to respond to changes in its environment. Through a complex biochemical cascade the message is sent to the nucleus and changes in gene expression take place and enable cell response. The kind of a response a cell will give depends on many factors, including cell type, the chemistry of the cannabinoids, concentration of cannabinoid molecules, presence of other molecules and also the number or density of cannabinoid receptors on the cell's surface. To fully understand the physiological roles the endocannabinoid system has in our body, we have to take a look at where anatomically we have cannabinoid receptors, so what organs or tissues can hear the message cannabinoids are sending.

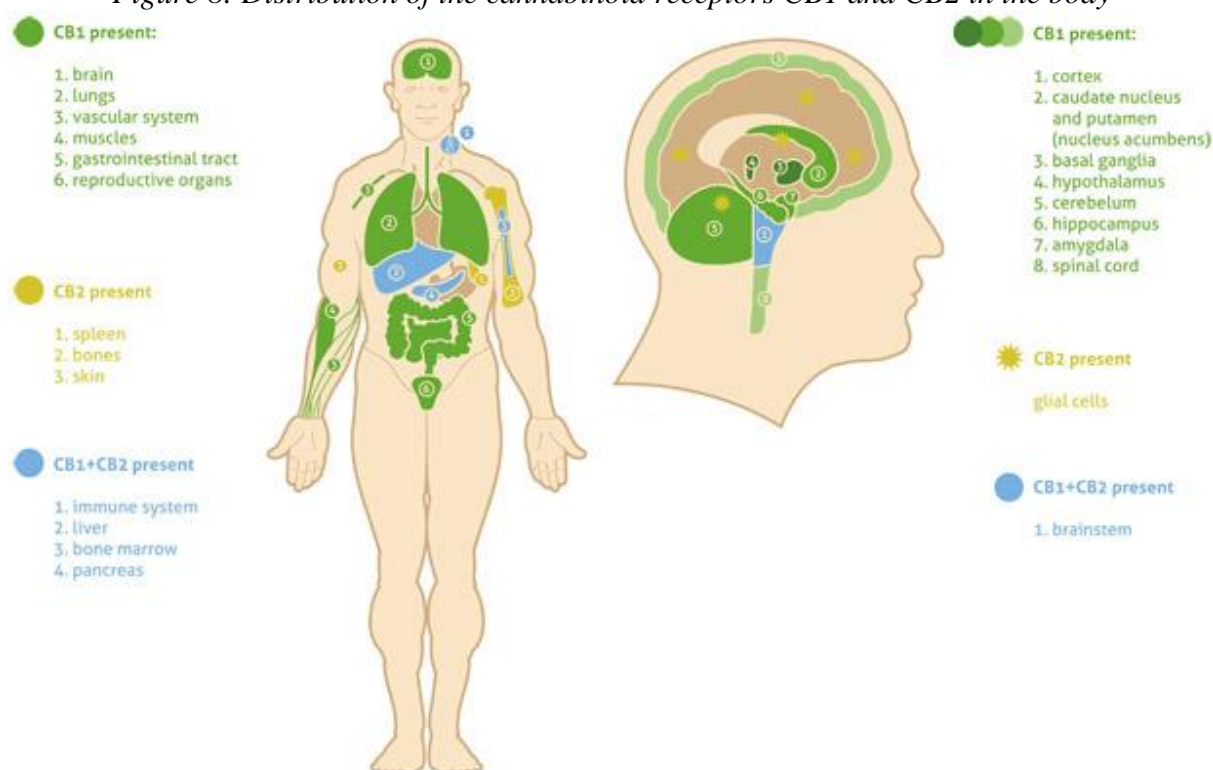
*Figure 7: Activation of the cannabinoid receptors and following intracellular signaling*



Source: [https://www.researchgate.net/figure/Activation-of-CB-2-receptors-by-natural-or-synthetic-ligands-favors-a-range-of-receptor\\_fig1\\_264631508](https://www.researchgate.net/figure/Activation-of-CB-2-receptors-by-natural-or-synthetic-ligands-favors-a-range-of-receptor_fig1_264631508)

The CB1 receptor is one of the most abundant G protein-coupled receptors (GPCRs) in the central nervous system and is found in particularly high levels in the neocortex, hippocampus, basal ganglia, cerebellum and brainstem. They are less expressed in the amygdala, hypothalamus, nucleus accumbens, thalamus, periaqueductal grey matter and the spinal cord, as well as in other brain areas, mainly in the telencephalon and diencephalon. CB1 receptors are also expressed in several peripheral organs. Thus, they are present in adipocytes, liver, lungs, smooth muscle, gastrointestinal tract, pancreatic  $\beta$  -cells, vascular endothelium, reproductive organs, immune system, sensorial peripheral nerves and sympathetic nerves. There are very few CB1 receptors in the brain stem, in the centers that regulate breathing and cardiovascular functions. This is one of the reasons cannabinoids have a good safety profile, since their overdose does not adversely affect these brain centers. Attesting to this is also the fact that up to date there has not been a single proven case of death due to overdose with cannabis.

Figure 8: Distribution of the cannabinoid receptors CB1 and CB2 in the body

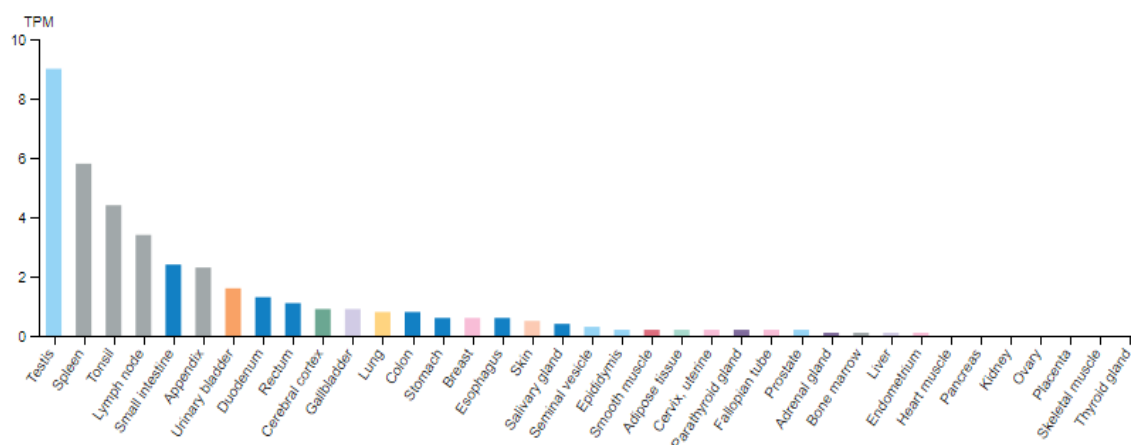


Source: <https://www.fundacion-canna.es/en/endocannabinoid-system>

The distribution of CB2 receptors is quite different, the highest density is found on the periphery in the immune system cells, such as macrophages, neutrophils, monocytes, B-lymphocytes, T-lymphocytes and microglial cells. Recently, CB2 receptor expression has also been shown in skin nerve fibers and keratinocytes, bone cells such as osteoblasts, osteocytes and osteoclasts, liver and somatostatin secreting cells in the pancreas. The presence of CB2 receptors has also been demonstrated at the central nervous system (CNS), in astrocytes, microglial cells and brainstem neurons. There is evidence of CB2 also on the surface of neurons. Recent evidences suggest that the CB2 receptor mediates emotional behaviours such as can be found in schizophrenia, anxiety schizophrenia, anxiety, depression, memory and nociception, supporting the presence of neuronal CB2 receptors or the involvement of glial cells in emotional behaviors. CB3 receptor or GPR 55 is a general cell signaling receptor, its specific physiological role is unclear, because mice with a target deletion of the GPR55 gene show no specific phenotype.

GPR55 is widely expressed in the testis, spleen and brain, especially in the cerebellum. It is expressed in the gastrointestinal tract, especially jejunum and ileum. Osteoblasts and osteoclasts express GPR55 and this has been shown to regulate bone cell function. GPR 55 has a list of ligand, only one class of them being cannabinoids.

*Figure 9: Distribution of the GPR55 or CB3 receptor in the human tissues*



Source: <https://www.proteinatlas.org/ENSG00000135898-GPR55/tissue>

Already from the distribution of the three receptors in our body, we can see that the effects of cannabinoids that bind the CB1 or CB2 or CB3 will be very different. Taking into account that we now know that cannabinoids on top of having clear binding affinities to cannabinoid receptors, also have some degree of affinity to other types of receptor and also receptor independent effects, it is a complex mode of action. Much more complex than we usually see in pharmaceutical medication, where there is a known specific target and highly predictable effect. So at the baseline the endocannabinoid system is defined as the ensemble of the two cannabinoid receptors; their two most studied endogenous ligands, the endocannabinoids N-arachidonylethanolamine (anandamide) and 2-arachidonoylglycerol (2-AG); and the enzymes responsible for endocannabinoid metabolism (the primary 5: NAPE-PLD, the two DAGLs, FAAH, and MAGL). However, anandamide and 2-AG, and also the phytocannabinoids, have more molecular targets than just cannabinoid receptors. Furthermore, the endocannabinoids, like most other lipid mediators, have more than just one set of biosynthetic and degrading pathways and enzymes, which they often share with “endocannabinoid-like” mediators that may or may not interact with the same proteins as phytocannabinoids. In some cases, these degrading pathways and enzymes lead to molecules that are not inactive and instead interact with other receptors. Finally, some of the metabolic enzymes may also participate in the chemical modification of molecules that have very little to do with endocannabinoid and cannabinoid targets. So the classic definition of the ECS has expanded with the discovery of secondary receptors, ligands, and ligand metabolic enzymes. For example, AEA, 2-AG, N-arachidonoyl glycine (NAGly) and the phytocannabinoids  $\Delta^9$ -tetrahydrocannabinol (THC) and cannabidiol (CBD) may also serve, to different extents, as ligands at GPR55, GPR18, GPR119, and several transient receptor potential ion channels (e.g., TRPV1, TRPV2, TRPA1, TRPM8). The effects of AEA and 2-AG can be enhanced by “entourage compounds” that inhibit their hydrolysis via substrate competition, and thereby prolong their action. Entourage compounds include N-palmitylethanolamide (PEA), N-oleylethanolamide (SEA), and cis-9-octadecenoamide (OEA, oleamide).



## 2.2. Endocannabinoidome

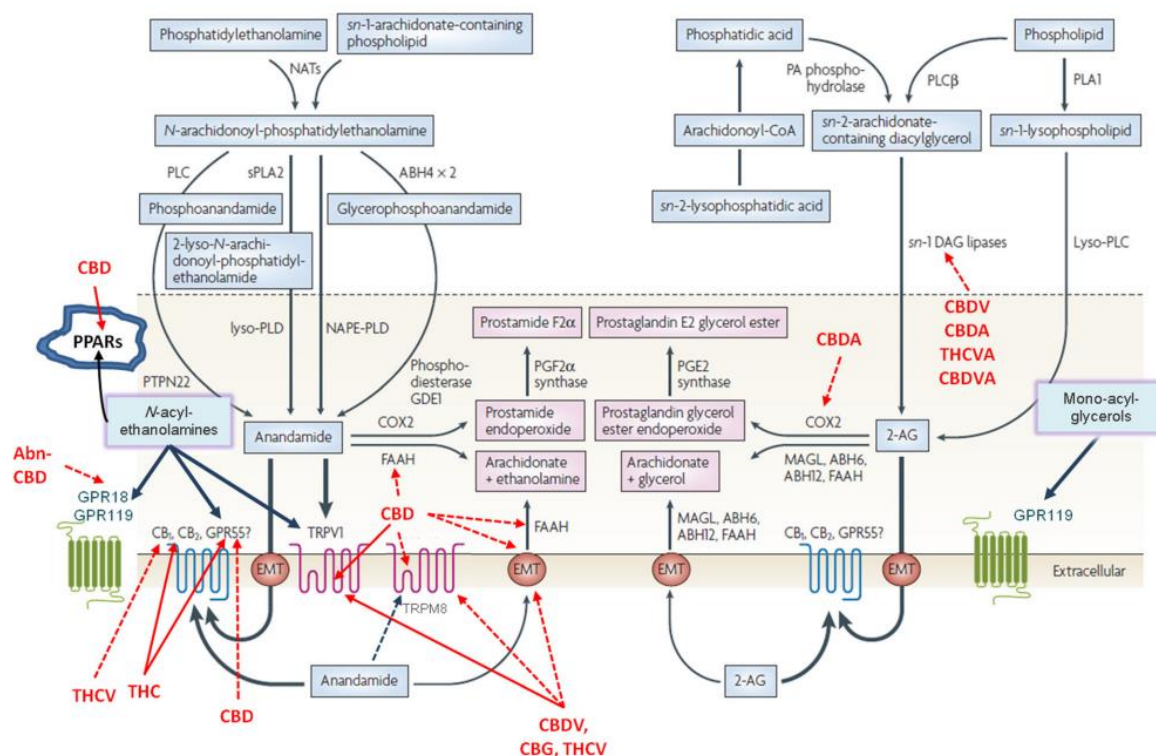
This narrow definition of the ECS presented a few semantic problems:

- 1) Of the > 80 cannabinoids naturally found in cannabis (with different relative composition depending on the cannabis variety), only THC and its less abundant  $\Delta^9$ -tetrahydrocannabivarin (THCV), are capable of binding with high affinity to CB1R and CB2R (with agonist and antagonist activity for THC and THCV, respectively); hence, these 2 receptors should not be defined as “cannabinoid” receptors, but rather as THC/THCV receptors;
- 2) As a consequence, “endocannabinoids” should not be the endogenous ligands of CB1R and CB2R, but rather the ligands of all those “cannabinoid receptors” that uniquely and selectively bind to cannabinoids in general (thus, anandamide and 2-AG might not be the only endocannabinoids);
- 3) Again, as a consequence, “endocannabinoid enzymes” would not only be NAPE-PLD, the two DAGLs, FAAH, and MAGL, but also other enzymes responsible for the biosynthesis and inactivation of the other mediators to be eventually included in the list of the endocannabinoids.

Although this broader view would seem like the natural “evolution” of the definition of the “endocannabinoid system”, things are likely to be even more complicated. First, endocannabinoids, and also cannabinoids, have more molecular targets than just CB1, CB2, CB3 and thermo-TRPs, and these receptors appear to extend also to proteins that are targeted by other endogenous and exogenous substances. Furthermore, anandamide and 2-AG, like most other lipid mediators, have more than just 1 set of biosynthetic and degrading pathways and enzymes each which they often share with “endocannabinoid-like” mediators that may or may not be part of the extended definition of “endocannabinoids” provided above, that is, they may or may not interact with the same proteins to which non-THC cannabinoids bind. In some cases, these degrading pathways and enzymes lead to molecules, such as the prostamides and prostaglandin-glycerol esters which are not inactive but instead interact with other receptors, that is, these enzymes are “degrading” for endocannabinoids and “biosynthetic” for other mediators. Finally, some of these enzymes may also have additional completely different functions, for example participate in the chemical modification of molecules that have very little to do with endocannabinoid and cannabinoid targets. As a result of the above reasoning, some authors now use an extended definition of the endocannabinoid system, such the “enlarged endocannabinoid system”. For the sake of clarity a new term was introduced the “endocannabinoidome” and represents the ensemble of endocannabinoids, endocannabinoid-like mediators, and their several receptors and metabolic enzymes.

*Figure following on the next page*

Figure 10: The endocannabinoidome



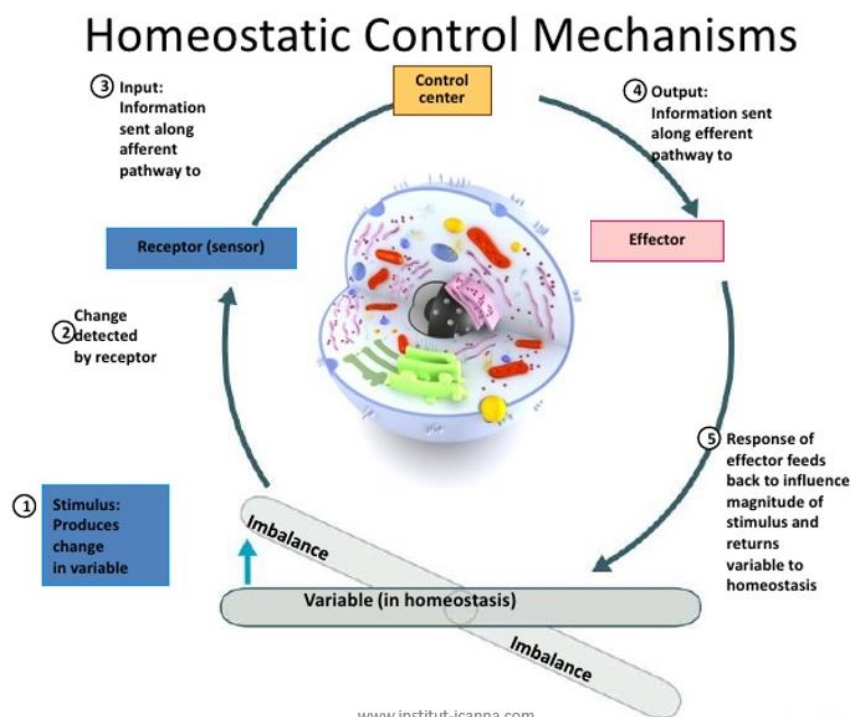
Source: <https://www.semanticscholar.org/paper/The-Endocannabinoid-System-and-its-Modulation-by-Marzo-Piscitelli/a5b336dc28cb961a9375d03b57e10c1ff37241de>

### 3. THE PHYSIOLOGICAL ROLE OF THE ECS

So all in all the role of the endocannabinoids system is very complex. It affects the majority of the systems in our bodies and the cannabinoid receptors are expressed (in different density) on majority of cell types. So describing what exactly it does, is not an easy task, as it regulates the biochemistry of vast majority of 37 trillion cells in our body. Research has shown that the endocannabinoids system functions as an SOS mechanism that is activated whenever our bodies are out of balance for whatever reason. So example it is activated when we suffer from a physical injury, when we encounter pathologic microbes and also when we feel emotional pain or are under stress. It seems that the ECS serves as a general protective mechanism, starting at the cellular level, proceeding to the tissues, organs, body and our general well-being. The ECS's salient homeostatic roles have been summarized as, "relax, eat, sleep, forget, and protect". It is known to modulate embryological development, neural plasticity, neuroprotection, immunity and inflammation, apoptosis and carcinogenesis, pain and emotional memory, and most importantly from the viewpoint of recent drug development: hunger, feeding, and metabolism. It is well worth noting that human breast milk contains significant amounts of endocannabinoids (less of AEA and high levels of 2-AG). The oral administration of endocannabinoids produces calming properties. Experiments with suckling models in mice showed that when newborn mice are fed the CB1 antagonist (SR141716A), they stop suckling and die. So the disruption of the ECS in the first 24 hours after birth seems to be lethal. Albeit the cells seem like very dynamic structures, with many 1000 biochemical reactions happening simultaneously, all the parameters are very tightly regulated. From temperature, to osmotic pressure, pH level, redox potential, concentration of ions, nutrients, enzymes... So it's a dynamic structure, but within strict limits. For example when the intracellular pH value changes by 0,1 pH unit many cellular processes are activated to return the value to optimum. This is termed cellular homeostasis. This is the tendency of cells or organisms to auto-regulate and maintain their internal environment in a stable state.

The stable condition is the condition of optimal functioning for the organism. It is brought about by a natural resistance to change in the optimal conditions and homeostasis or equilibrium is maintained by many regulatory mechanisms, some general (like the ECS) and some very specific.

Figure 11: The cycle of homeostatic control mechanisms (



Source: <https://antaology.wordpress.com/2012/10/08/what-is-homeostasis/>

So starting from a cellular level, the ECS is a protective mechanism that is turned on, like a SOS mechanism, when the cellular homeostasis is out of balance. It is like the first line of defense to go off, activating all other mechanisms needed to return to homeostasis as soon as possible. Living in today's modern society is giving many challenges to our endocannabinoids system and leading to exhaustion of the supply of endocannabinoids. If we take a look at one ordinary day, getting up, getting ourselves and kids ready for work and school, all in a time stress, being in traffic, responsible and stressful jobs, challenging relationships, toxic environment, contaminated food, water and air...it is obvious that in one ordinary day our ECS is facing more challenges than it would in a month or longer even 100 years ago. If our endocannabinoid system is constantly challenged over a longer period of time, this vital SOS mechanism starts to dysfunction. It can dysfunction either not producing endocannabinoids when we need them, or producing endocannabinoids when we do not need them. This is usually one of the first steps in the development of chronic disease, the first dominoe dice in a complex dominoe structure to fall, leading to symptoms and disease development. And in such cases, where the ECS is malfunctioning, use implementation of exogenous cannabinoids can be very beneficial.

Figure following on the next page

*Figure 12: Representation of homeostatic mechanism and the role of cannabinoids*



*Source: Institute ICANNA*

Some emerging literature documents the "ECS deficiency syndrome" as an etiology in migraine, fibromyalgia, irritable bowel syndrome, psychological disorders, and other conditions. The theory of clinical endocannabinoid deficiency (CED) was presented in 2001. The theory of CED was based on the concept that many brain disorders are associated with neurotransmitter deficiencies, affecting acetylcholine in Alzheimer's disease, dopamine in parkinsonian syndromes, serotonin and norepinephrine in depression, and that a comparable deficiency in endocannabinoid levels might be manifest similarly in certain disorders that display predictable clinical features as sequelae of this deficiency. All humans possess an underlying endocannabinoid tone that reflects of levels of anandamide (AEA) and 2-arachidonoylglycerol (2-AG), the centrally acting endocannabinoids, their synthesis, catabolism, and the relative density of cannabinoid receptors in the brain. If endocannabinoid function were decreased, it follows that a lowered pain threshold would be operative, along with derangements of digestion, mood, and sleep among the almost universal physiological systems subserved by the endocannabinoid system. The CED theory also posits that such deficiencies could arise due to genetic or congenital reasons or be acquired due to intercurrent injury or disease that consequently produces characteristic pathophysiological syndromes with particular symptomatology. The greatest evidence for CED is present for migraine, fibromyalgia, and irritable bowel syndrome (IBS). Other diseases are also associated with suboptimal functioning of the ECS, Fride speculated that a dysfunctional ECS in infants contributes to "failure to thrive" syndrome. Hill and Gorzalka hypothesized that deficient ECS signaling could be involved in the pathogenesis of depressive illnesses. In human studies ECS deficiencies have been implicated in uncompensated schizophrenia, migraine, multiple sclerosis, Huntington's, uncompensated Parkinson's, irritable bowel syndrome, uncompensated anorexia, and chronic motion sickness.

#### **4. CONCLUSION**

There exists a large body of evidence that the endocannabinoids regulate mood, emotion, motivation, memory, pleasure perception, appetite, metabolism and more. The connection between cannabinoids and health/disease has long been empirically and scientifically established. Once we understand the functioning and the role of the unique system in our bodies, we need to employ action to nourish and support the function of this system and start with cannabinoid intervention in situations where it is evident that the ECS is no longer performing its protective function. It is high time for medicine worldwide to catch up with research findings and patient's demands and harness the effects of cannabinoids to support or restore the cellular biochemical homeostasis, which serves as the cornerstone of health.

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## NEW DATA SOURCES IN THE QUALITY OF LIFE STUDIES: SOCIAL MEDIA OPPORTUNITIES

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### **ABSTRACT**

*The article offers a new methodological approach to the problem of measuring the quality of life of the population. The proposed approach is based on the use of new digital data sources, which are "digital footprints" of people on the Internet. To date, there are two different approaches in the study of quality of life that use different data sources to study the quality of life of people – an objective approach and a subjective approach. Objective approaches use different sets of statistical data. Subjective approaches measure the quality of life based on self-reports, people's judgments about their lives, which are collected through questionnaires or psychological and sociological experiments. With the advent of the Internet and especially social networks, researchers have the opportunity to study people's subjective opinions and judgments not only through surveys, but also using so-called "contactless" methods. Such methods do not require direct contact between the sociologist and the respondent. This allows you to get the so-called "unsolicited public opinion", that is, the opinion of people that they express voluntarily, on their own initiative. Sources of such data are primarily social networks, in which users directly express their attitude to a particular situation by posting posts, as well as indirectly - using likes, reposts and comments. The article examines the current state of discussion in the scientific community regarding new digital data sources, analyzes the main arguments pointing to the advantages and disadvantages of these sources. Three main areas of study of quality of life and well-being using digital methods are also considered.*

**Keywords:** *Digital Sociology, Quality of Life, Social Network, Data Source*

### **1. INTRODUCTION**

It is impossible to isolate studies of quality of life from its measurement and assessment. In general, depending on the measurement parameters, all currently available quality of life theories represent two large groups: objective and subjective methods (Nugaev & Nugaev 2003). Objective methods employ various statistical data sets, while subjective methods assess quality of life based on what people report and think of their lives themselves; such reports and opinions are collected by means of surveys or psychological and sociological experiments. In this research, we analyze subjective quality of life as an individual's personal and subjective assessment of his or her own quality of life. New information and communication technologies offer new opportunities to study subjective quality of life. Thus, nowadays social media is the one of the principal information sources on mood, emotional experiences and behavior of people. We suppose that quantitative analysis of human behavior in social networks is a way to obtain sufficient information on the people's emotions and worries, as well as to assess their subjective quality of life. In this article we offer a way to study the subjective quality of life based on the information on the online activities of social networks users. The development of information and communication technologies has a huge impact on research in the field of quality of life and well-being. This impact is twofold – on the one hand, information and communication technologies change the way people live and generate a lot of new opportunities for people (Fomin 2016), on the other hand, these technologies create prerequisites for the application of new methodological approaches to the study of quality of life. As noted by Kryshtanovskaya (2018) previously, we studied social groups by physical contact: we had to

approach a person, ask them questions, get answers, encode them, enter codes into a computer, create matrices, subject them to statistical analysis, decode and interpret them. With the spread of social networks, it became possible to conduct surveys online, spending less resources, saving time and collecting much more information. This type of survey has been criticized by the professional community because it was not possible to prove the representativeness of such samples. However, gradually the contours of a new sociology began to emerge – a sociology associated with the digital age, with new methods of collecting and processing information. Kryshtanovskaya calls such sociology "contactless", its peculiarity is that sociologists do not ask anyone, they get information from a stream of messages, from open sources.

## **2. PROBLEM FIELD OF DIGITAL SOCIOLOGY**

Since the advent of the Internet, several sub-disciplines have emerged in sociology that focus on the study of social aspects of information and communication technologies – Internet sociology, social network sociology, online community sociology, and similar research areas have become firmly embedded in the structure of sociological knowledge. Today, these areas of research are integrated within a more global (and at the same time, uncertain) concept – digital sociology, which is due to the scope of the processes of digitalization and digital transformation, which are associated with the modernization trends of the last decade in the economy, business, education, public administration, social sphere, etc. Digital transformation involves the introduction of various IT technologies in the work of organizations and companies in order to increase the efficiency and speed of all interaction processes both within these organizations and companies, and in interaction with the external environment. As a result of digital transformation, there is a transformation of social institutions – the economy, the state, education, etc. Concepts such as "digital economy", "digital (electronic) government", "digital education" arise. Today, digital transformation is considered to be the most important tool for increasing competitiveness for commercial and non-commercial organizations and companies, regardless of their field of activity (Baker 2015). As an example, consider only one such digital concept – the digital economy. N. Srnicek (2016) writes that the digital economy includes companies that rely more and more on information technology, data management and the Internet in their business models. Given that digital technologies are being introduced into traditional sectors of the economy – industry, transport, services, telecommunications, etc., the digital economy is becoming an important part of the modern economy. It is the area where almost all innovations and drivers of development arise. Therefore, it is true that the digital economy appears as an ideal for modern capitalism. N. Srnicek notes that the digital economy is becoming a model of hegemony: cities must become "smart", businesses must become breakthrough, workers must be flexible, and governments must be lean and "intelligent". A completely new business model based on data analysis is emerging – "platform capitalism". Sociologists are actively involved in the study of new social realities, new social objects and processes that are caused by digital transformation and the spread of digital technologies. This is one aspect of digital sociology. Another aspect of digital sociology is the use of new methods for studying social reality, which are not traditional from the point of view of classical sociological methodology but are more relevant to the nature of digital society. The adoption of these methods is very difficult, although marketing specialists have been actively and very successfully using these methods in their practice for about twenty years, since the early 2000s R. Rogers (2013) suggests calling new methods in sociology digital. The first generalizing monograph on digital sociology was published in 2015 (D. Lupton "Digital Sociology"), since then there has been quite a large number of theoretical and empirical works performed in the field of digital sociology.

D. Lupton herself identifies four components that make up the content of digital sociology:

1. Professional digital practice: using digital tools within the framework of sociological practice – creating scientific networks, online profiles, publishing and sharing research, and advising students;
2. Analysis of the use of digital technologies: the study of how people's use of digital technologies shapes their self-perception, their implementation and their social relationships, as well as the role of digital media in the creation or reproduction of social institutions and social structures;
3. Digital data analysis: using user-generated digital data for social research, both quantitative and qualitative;
4. Critical digital sociology: a reflexive analysis of digital technologies from the point of view of social and cultural theories.

Each of these components of digital sociology is an independent and important area of research. The process of digitalization has a great impact on the working life and personality of sociologists. Many aspects of research and learning have been transformed by new digital technologies. Professional digital practice has to do with how sociologists (and other scientists) use these digital tools. In general, initially sociologists were rather slow and reluctant to incorporate digital technologies into their professional practice (this applies both to communication, creating virtual communities, and using Internet surveys). Which, according to Farrell and Petersen (2010) is surprising, since sociologists have traditionally been innovators in comparison with scientists of other social sciences, especially in terms of the development and improvement of data collection techniques. However, the situation is slowly beginning to improve and sociologists are increasingly involved in the use of digital technologies to create networks both within the scientific society and with people outside it, to popularize and increase the impact of their work and study the work of other sociologists.

### **3. DIGITAL TOOLS IN SOCIOLOGY**

A well-known Russian sociologist and specialist in the methodology of sociological research Tolstova (2015) identifies four computer technologies that are already actively used in the social Sciences: data mining; Big Data; digital humanity; data science. Data mining technology is primarily designed to identify patterns in large data sets. This allows for a creative approach to working with data, data arrays are processed, combined, and transformed in such a way as to extract patterns of interest to the researcher. Mosyagin (2015) defines data mining as follows: the essence and purpose of data mining technology is to extract non-obvious, objective and useful patterns from large amounts of data. This means that the found patterns are not detected by standard methods of information processing or by expert methods. This is one of the significant differences between data mining methods and traditional statistical methods of data analysis. The latter are mainly focused on testing pre-formulated hypotheses and on rough exploration analysis, while data mining is aimed at detecting, first of all, non-obvious, implicit relationships. The second computer technology that is associated with digital sociology is Big Data. Perhaps, this technology is most discussed in the context of the application of digital methods of sociological research and causes the most violent disputes among sociologists. Tolstova (2015) writes that the core of this technology is a set of computer science achievements that allow searching and forming arrays of large, scattered, changing, structured and unstructured data. There is still no generally accepted definition of this concept. Kitchin (2013) cites the following characteristics of Big Data:

- Huge in volume, consisting of terabytes or petabytes of data;
- Fast creation speeds that are created in real time or close to real time;
- Heterogeneous in diversity, structured and unstructured in nature;

- Comprehensive in scope, aimed at reaching entire populations or systems;
- Very detailed by resolution, aiming to be as detailed as possible, and accurate in identification;
- Compared by nature, containing common areas, which allows you to combine different data sets;
- Flexible, allowing you to easily expand (add new areas) and scale (quickly increase in size) data.

The D. Laney 3V Big Data model is widely used in the literature, according to which the features of Big Data are volume, velocity, and variety (Kitchin & McArdle 2016). Somewhat later, this model expanded to 5V by adding two attributes veracity (which refers to the quality of data) and value (which characterizes the utility of big data) (Onay & Öztürk 2018). In the future, the number of letters V only increased. For example, E. McNulty (2014) suggests the 7V model, adding to the features listed above even variability and visualization. Big Data starts with generating data. Data sources can be very diverse – sensors, videos, clicks on a site, likes in a social network, etc. Currently, the main sources of big data are operational and trade information in enterprises, logistics and sensory information in the Internet of things, information about human interaction and information about the situation in the Internet world, as well as data obtained in the course of scientific research, etc. (Chen et al 2014). We will not discuss the other two areas of digital sociology that Tolstova highlighted, digital humanity and data science, in detail, since these areas are not directly related to the topic of quality of life research. Digital Humanities are related to the use of digitized materials (in digital form) within the methodologies of various humanities (history, philosophy, linguistics, literature, art, archaeology, culture, music, etc.). Data science is another very relevant and attracting a lot of attention in digital research. Data scientist will be one of the most popular professions on the labor market in the near future. Data science combines statistics, data analysis, machine learning, and related techniques to understand and analyze real-world phenomena using data. As noted by Dhar (2013), data science involves focusing around data and, more broadly, statistics, which is a systematic study of the organization, properties, and analysis of data and their role in inference, including our trust in such conclusions. The difference between data science and classical statistics is that data science deals with very heterogeneous and unstructured data, often originating from networks with complex relationships between their elements.

#### **4. QUALITY OF LIFE STUDIES AND SOCIAL MEDIA**

As compared to surveys, social media as a source of information have their own virtues and shortcomings. Sanchez, Craglia and Bregt (2017), for instance, see Twitter as a source of data on various social indicators and suggest applying these data to measure quality of life. In their paper Sanchez, Craglia and Bregt study only one social indicator: communications with politicians. This paper is very interesting, because the authors have thoroughly studied all potential and limitations of the proposed method. The authors believe that the advantages of this method of quality of life assessment based on the Twitter data include higher particularization of the users' assessments allocation in time and space, that is, the obtained information is more detailed and accurate. This information is available at any moment; the data can be downloaded online. A virtue of this method is its quickness, relatively low cost and flexible methodology; the method is adjustable to any tasks and goals, whereas surveys consist of fixed questions making it easier to compare the results and the subsequent studies. But should the goals of studies change, surveys can no longer react flexibly to the urgent issues. As a source of data, Twitter has a major drawback, which is related to the low representativeness of sample: Twitter users do not represent the whole population; its more engaged users are young people.

There are also certain difficulties determining the users' locations influencing the measurement accuracy. The authors of the study come to the conclusion that Twitter-based data can be used to measure social indicators, and, though it is still impossible to level up the above-mentioned limitations, these data can definitely be used as supplementary to the results of some official surveys. This is especially true for smaller settlements where official surveys bring no representative results. Schober et al (2016) express a more cautious view of using social networks as a way to replace surveys and official statistics. On the one hand, studies of social networks have an obvious potential for quick and convenient analysis of some aspects assessed by surveys, as well as for the analysis of the social phenomena never measured before. At the same time, it is not clear to what extent the social networks analysis complies with the results of surveys, that is, we do not know how reliable these results are. These issues are far from being solved. The authors believe that the principal cause of controversies is that the researchers of social networks and surveys have different background and experience; besides, they use different descriptive terminology. Thus, IT experts and engineers apply a wide range of methods to study social networks data (such as machine learning, natural language analysis, lexical analysis), while sociologists prefer opinion polls (a 'golden standard'). Researchers of communications and media, market and consumer behavior, etc. are in favor of opinion polls as well. This makes the situation confusing and needs further investigation and discussions. Therefore, the researchers agree that social networks have huge potential as a source of data on evolution of society, at least as a supplement to reliable surveys. Dudina and Iudina (2017) note that although the measurement of public opinion through the analysis of information from social networks, blogs and other social media is gradually becoming more common practice of pollster services and companies, there are very few methodological works describing not just the process of collecting and analyzing such information, but also comparing the data obtained with the results of survey methods. There are three main approaches to solving the problem of extracting opinions from unstructured texts, which are posts in social networks, blogs, etc. – machine learning (thematic modeling, methods of teaching with a teacher), linguistic methods (dictionaries, linguistic parsers), and a hybrid approach that combines the two approaches. In their research Dudina and Iudina compared reactions to a high – profile public opinion event (the demonstration of the film *Chayka* on Youtube in 2015), obtained in two different ways – using a traditional public opinion survey and thematic modeling of opinions extracted from the Internet. The conclusion that the authors of this study make is that the analysis of texts from the Internet has both advantages and disadvantages. The advantages of this method include the fact that opinions and discussions on the Internet allow you to get more information about the context of forming public opinion about an event or person. Also, the results of the analysis of opinions on the Internet can serve to improve surveys (the structure of the questionnaire, questions). At the same time, the authors conclude that analysis of texts from the Internet cannot be considered as a full-fledged alternative to mass surveys. The main problem associated with extrapolating the results of studying online reality to offline reality is the lack of theoretical grounds for generalizing data to broader (non-digital) segments of the population. As noted by Dudina and Iudina the traditional model of mass polling involves linking opinions to socio-demographic groups, and the results of analyzing texts from the Internet make it possible to present only the range of topics discussed and their relative popularity, but it does not allow comparing opinions with their carriers, because when analyzing data from social media, there is a problem with obtaining reliable demographic information. Data on online activity of social network users, which is easier and faster to get than the results of surveys, does not yet fit into the existing model of public opinion. Dudina and Iudina see overcoming this limitation in improving the tools for analyzing online texts, and, in particular, in developing specifically sociological analyzers that will be able to structurally reproduce traditional surveys. This point of view clearly illustrates the main reason that prevents the more active use of digital

technologies in sociological research: the intuitive desire of sociologists to reduce new methods of studying social reality to familiar and well-founded standards, which are guaranteed by careful adherence to the prescribed procedures of traditional statistics. New technologies require a more free and creative view of the researcher, a flight of "sociological imagination", which is quite successfully implemented in other disciplines (for example, mathematics and physics) and areas of knowledge (for example, in business). At the same time, despite the mentioned methodological limitations, the study of various social processes using social network analysis is becoming more and more popular. For example, Cody et al (2016) claim that the study of public opinion by analyzing texts on the Internet (in this case, Twitter) has the same predicative accuracy as traditional offline surveys. They believe that the spread of social media creates prerequisites for conducting public opinion polls that do not require inviting respondents to participate (unsolicited public opinion). In other words, the researchers get the opportunity to study the opinions of people that they express voluntarily, at their own request, without the mediation of interviewers and the use of pre-constructed questionnaires. Despite all restrictions mentioned above, studies of social processes assisted by the analysis of social networks are gaining popularity. Apart from the paper by Sanchez, Craglia and Bregt, the study by Antenucci et al (2014) can be mentioned, where the authors use Twitter to study the problem of unemployment. The analysis of online activities in social networks has one of the principal roles in studies of topical political processes (first of all, but not limited to, for forecasting of voting results) and in marketing. In the first case Twitter is the preferred object of studies. These studies are discussed in special papers (Myagkov et al 2018; Myagkov et al 2019). In the second case researchers look at the potential of social networks in terms of reaching marketing goals, promotion of brands, etc. In our view, the profound quantitative analysis of online activities, such as various actions of the social networks users, is a way to obtain the information on people's emotions and experiences and assess their subjective well-being. Modern digital technologies offer a lot of opportunities to measure and assess quality of life. We have already covered the basic facts used in the discussion on and around the applicability of the social networks analysis to the assessment of quality of life. Next, we cover several remarkable papers analyzing the methodology related to the use of the social networks data to measure and assess quality of life and well-being. Three very relative cross-sectoral areas in the studies of social media and quality of life can be distinguished. The first area is the use of new information technologies for analysis and processing of data, which can be a source of information to study quality of life. An example of such studies is the use of the automatic emotions recognition technology in group images posted in social media to determine the intensity of 'happiness' (Dhall, Goecke, & Gedeon 2015). Another area of studies sees social media as a new social phenomenon influencing various aspects of quality of life and well-being (Sabatini & Sarracino 2017; Verduyn et al 2017). Social media are considered to be an important factor capable of having positive or negative impact on such parameters of well-being as social capital, satisfaction with marriage, depressions, solitude, social support, assessment of one's life as happy as compared to the others, etc. Some studies mention dual influence of social networks on the users' subjective well-being: they can reduce it in one case and improve in another (Clark, Algoe, & Green 2018). Finally, the third area of studies sees the social media as a self-sufficient source of information for assessment of well-being, happiness and quality of life. Taken the role social media have recently played in people's everyday lives, we consider such attempts to be very promising. Hao et al (2014), for instance, predict subjective well-being of social media users by means of the machine learning technology. They have used the data on 1785 users of the Sina Weibo social network to train an algorithm, prior to what they asked those users to complete the surveys to assess positive and negative affects (PANAS) and to assess the psychological well-being (PWBS).

Schwartz et al (2016) have accomplished a similar study based on Facebook materials. In yet another paper Schwartz et al (2013) have used Twitter to assess subjective well-being in different US counties. Chen et al (2017) have analyzed updates of Facebook users to predict their subjective well-being. Wu et al (2015) have used the data from Sina Weibo to design the City Happiness Index. They have analyzed the users' statements and opinions of their lives in different cities. Wang et al (2014) have studied profiles of Facebook users for a year and assessed their well-being according to Diener's life satisfaction scale to compare the obtained data with Facebook's Gross National Happiness index calculated on the basis of analysis of positive and negative words in the users' status updates. In this study the authors bring into question a possibility of linguistic analysis of internet messages to study the users' psychological condition. Yang and Srinivasan (2016) study life satisfaction based on the Twitter data. This group of studies also includes those analyzing 'happiness geography', for example, correlation between emotions and mobility (Mitchell et al 2013). It should be noted that the number of studies where social media are used as the principal source of information on subjective well-being and quality of life of users has been growing constantly within the last decade. As compared with conventional surveys to study subjective quality of life, these methods enable faster and cheaper data collection, however, they are applicable to the social media users only leaving behind those who are not active users of social media.

## 5. CONCLUSION

In the final part of the article we will summarize the advantages and disadvantages of studying the quality of life based on social network data:

- Rapid data collection can be carried out for the whole country, as well as for individual regions and even small localities;
- Data can be detailed in time to within one day, which allows you to study the fluctuation of users' moods in different time periods;
- Users respond to current, topical events, and share experiences that concern them at the current time. This allows you to capture the mood and opinion of users at the moment when these experiences are most relevant to them;
- Since users voluntarily and independently Express their opinions, without the mediation of interviewers and the use of pre-designed questionnaires, this allows you to get data on those aspects of well-being that researchers may have missed at the planning stage of the survey;
- Users more openly share their opinions and Express their approval/disapproval of "anonymity" in social networks;
- The opinions of users in social networks are more diverse compared to the answers in the questionnaires, so the data on various social indicators of well-being are more diverse;
- Relatively low material and time costs;
- Due to the large amounts of data that are analyzed in the process of constructing the index of subjective well-being, a high accuracy of estimates is achieved for the part of the population that actively uses social networks (the digital population).

The disadvantages of social networks as a data source include the following:

- The sample does not fully reflect the general population, there is a sample bias;
- Non-traditional user communication language may become an obstacle when using machine learning;
- Technical difficulties in data collection;
- Users tend to be more active in expressing negative opinions than positive ones, and there is a bias in ratings towards negative opinions.



In the work of Shchekotin et al (2020), an example of the implementation of this approach is presented on the example of the Russian social network Vkontakte.

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## FREE SUNDAY - AN ISSUE OF THE CULTURE OF LIVING

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### ABSTRACT

*This work has emerged as a practical need to launch further research based on the conclusions of the conference entitled „Free Sunday and Dignified Working Time in Europe: What is the Way Forward?“ The conference was held in February 2019 at the European Parliament in Brussels organized by the European Sunday Alliance. This paper presents historical background and European legislation as well as good practices in the implementation of non-working Sundays. Different influences and consequences of free Sunday on social, economic, psychological, health, family well-being and demographic trends in contemporary Europe are being considered. The integral part of the paper are results of two public opinion polls on free Sunday with comprehensive statistical analysis of their results. First one was carried out in Croatia in October 2017 while second one was conducted in May 2019. In addition, this research aims to emphasize the positive influence of free Sunday on demographic trends. Namely, just the accession of Croatia to European Sunday Alliance has enriched attitudes of this alliance by the existence of a strong correlation between free Sunday and demographic trends. For the first time Croatia gives free Sunday meaning to the extent that it is proposed to introduce free Sunday as one of the main measures of active demographic policy.*

**Keywords:** *European legislation, Free Sunday, Results of public opinion polls, Statistical analysis, Two-step stratification*

### 1. INTRODUCTION

It is in the nature of man to be free, he is called to be a brother equal in dignity with all of his brothers and sisters in the human species. These are the leitmotifs of the French Revolution that it has taken from the Gospel. (Črpić, Džolan, 2014) These are very powerful ideas, the foundations of the development of our civilization. At the general level, many, if not all, will agree with these great ideas. However, when we ask how to be free today, series of sub-questions open up: Where are the modern forms of the enslavement? Who are the new slaveholders of our bodies and souls? Whose dignity we should protect, why and how? In a number of European countries, especially in Croatia, that means looking at the situation of women and men employed in retail stores. The situation in which these people are is closer to the state of slavery than the state of freedom. In Croatia people who work in retail stores are forced to work overtime, to work on holidays and Sundays. Formally, everything looks legitimate but in reality they are not paid for overtime work nor for their work on Sundays. If so, they are shamelessly underpaid.

Not only does the situation have negative consequences on their families, but also on the society as a whole. The damages are even worse since the most of the respective employees are women. Too much exploited and more absent than present in their families, women cannot effectively raise up and educate their children. In the long run, this most likely generates and spreads violent behaviour among the children and young adolescents and consequently in the society as a whole. That is why it concerns all the citizens and the common freedom. Moreover, what is happening to the employees in the retail trade today could soon happen to every one else. The big capital knows no borders. In Croatian language, the day devoted to man and God, the day of the family, the day that enables and promotes freedom has a very indicative name „*nedjelati*“ which means „non-working“. With the theme of non-working Sunday, it should be borne in mind that premature workers are more likely to get sick, especially from chronic illnesses. As a rule, burly capital destroys all public expenditures, and this also applies to the reduction of the level of public health care. Consequently, an increase in social problems can be expected as well as delinquent behavior of the impoverished. A particularly vulnerable group is formed by chronically-diseased middle-aged employees whom at their firms become the technological surplus. They fall at the expense of the state and the state should be protected in that sense. To put it better, the state should first protect its citizens because that is its primarily task. It is particularly necessary to look at the social significance of the Sunday and its impact on the family welfare. Joining to European Sunday Alliance Croatia has enriched the scope of arguments for work-free Sunday by extending its relevance for demographic state and trends. Croatian Sunday Alliance has been first to propose free Sunday as one of the main measures of active demographic policy. The results of many scientific researches undoubtedly confirm the negative influence of overwork time, work on holidays and Sundays on the stability of marriage and family. Due to work overload, less time remains for quality marital relationships and the establishment of intimacy among spouses. Considering that partners spend most of their time together during weekend (Lyonette, Clark, 2009) spouses who have to work on weekends have even less time for each other than those who have normal working hours. The research made on the sample of married couples in Zagreb, Croatia (Čudina, Obradović, 2002) shows that partner's absence from home reduces the feeling of intimacy with one another, which leads to loneliness and causes diminishes mutual support. Besides, excessive stress associated with significant disruption of family dynamics and the relationship between husband and wife can ultimately lead to divorce. Enormous increase in divorce rate has devastating consequences not only to all members of respective families but also to society as a whole. By fifty years ago, the main reasons for divorce were mostly behavioral and fairly concrete such as alcoholism and neglect by a spouse (Chang, 2003). However, in the last two decades reasons for divorce have become more affective and abstract natures as feeling unloved or incompatibility in the areas of life values and interests. According to the results of some researches with increased number of hours women spend at their workplaces, the probability of divorce increases (Lyonette, Clark, 2009). Since the number of divorced marriages in a quarter of the counties in the Republic of Croatia on an annual basis exceeded the number of new marriages, it is no wonder that free Sunday is for the first time perceived and promoted in Croatia as one of the main measures of active demographic policy. This paper is organized as follows. After the introduction, the second part of the paper is dedicated to historical background and legislation in some European countries. The topic of the third part is case study of Croatia. After short recapitulation of legal frameworks regulating non-working Sunday in Croatia, the statistical analysis of public opinion polls results ( first one conducted in October 2017 and second one in May 2019 ) is carried out. The final section contains conclusion remarks. Consulted literature is listed at the end of the paper.

## 2. LITERATURE REVIEW AND PRAXIS IN SOME EUROPEAN COUNTRIES

It can hardly be denied that Sunday as "the day of the Lord and as the day of rest" is a Christian institution (Tamarut, 1970). Sunday is celebrated in the church as the day of Christ's resurrection. Throughout the centuries, this fundamental reason for celebration is sociologically infused with Jewish fundamental social attitude that a man needs rest. Moreover, Jewish tradition has always emphasized that this vacation belongs to every man, not just to certain groups or individuals. Therefore, the Israeli "Shabbat" as appreciating the Saturday as a holy day "appears already in the oldest parts of the Law (Exodus 20,8; 23,12; 34,21 ) " ( Spicq, Grilot, 1993 ), and is based on the cognition of the basic need of people and animals for rest. Saturday in Israel was originally a "social-ethical institution, ie. exclusively day of the rest and (...) only after the Babylonian exile it becomes the day of special Divine Worship " (Tamarut,1970). After a long time the Roman Empire launched legalization of the free day, and instead of Sabbath, Sunday become the free day as the day of Christ's resurrection. Namely, by legitimate reforms of Emperor Constantine life's attitude has changed considerably. Milan edict that prescribed Constantine I and Licinius in 313 stopped the persecution of Christians. Other reforms followed and Sunday was also overturned on a non-working, public holiday by the law in 321. Works in the field are exempted from the rest " because it is not always a good time for them" (Tamarut,1970). Thus, those works that were defined as " farming or hard working " through the later centuries were exempted by this law for practical reasons. Modernization, secularization, industrialization and urbanization have brought up the question of free Sunday into the center again. "Machine" and "Profit" caused the working hours, and working conditions became worse and worse. On the basis of the scientific analysis of that time, the benefit of the workers' vacations is recognized and the free Sunday is reinstated in the legal regulations. Thus, the implementation of free Sunday in the legislations of the western countries at the end of 19th and at the beginning of 20th was not motivated by spirituality and/or the workers' needs. It has already seen the benefit of the workers' rest "for human-social and economic reasons" (Tamarut,1970). It is certainly the tradition of thousands of years of practice that has influenced the determination of Sunday as the non-working day. Thus the non-working Sunday was reintroduced to Switzerland 1877, in Germany 1891, in France 1906 and in Italy in 1907. It should be noted that protestant countries such as England and the United States have not abolished free Sunday (Sabotič, 2005). Due to the character of this paper, it is possible to mention only a concise description of the Sunday work models that are currently valid in certain European countries. In the EU, about 30% of employees regularly work on Sundays. In Austria, this percentage is 16%, tending to grow, and in Germany 23%. According to Eurostat data, Sunday is at most workday in England and Denmark, while it is at lowest in Spain and Italy. Work on Sundays (in retail trade) is prohibited in Belgium, Denmark, France, Greece, Italy, Norway, Germany, Luxembourg and Austria. However, there are exceptions in all of these countries: work in retail shops in Norway is allowed only three weeks before Christmas from 14:00 to 20:00; in Greece there are no work restrictions in smaller places and tourist zones; in the Netherlands it is allowed to work 12 Sundays per year; in Spain 8 Sundays per year; in Finland just from 12:00 to 21:00h. In Germany, since 2006, working time has been allocated to federal states. So, work on Sunday in Bavaria is prohibited altogether but in most other federal states it is allowed to work only 4-6 Sundays per year. Berlin was allowed to work full-time 10 Sundays from 1 pm to 8 pm. However, the Constitutional Court of Germany issued an act, in December 2009, according to which only exceptionally can shops be open on Sundays. This law emphasized that activities typical for workdays cannot be passed on to Sunday, and that " pure financial interests of the shop owners are not strong enough to open trade on Sunday ". Thanks to a strong civilian fight for free Sunday, in Austria the Constitutional Court issued a decision in 2012 which prohibited work on Sundays. Shops can be open on working days from 6 to 21 h, on Saturdays from 6 to 18h.

They are closed on Saturdays after 18h, on Sundays, on holidays and feasts. Exceptions are the stations, airports, ports and public events. Because of the multiple and various negative effects of work on Sundays throughout the modern Europe in the recent years numerous initiatives, associations and mass movements for free Sunday have been established. Among them are European Sunday Alliance and European Citizens' Initiative for a work-free Sunday in Europe which advocate non-working Sunday be implemented in European legislation and be valid throughout the EU.

### **3. CASE STUDY OF CROATIA**

As an integral part of the EU, Croatia shares its destiny and all that has been said previously refers to Croatia, too. Croatia is a member of all important European initiatives for free Sunday and is particularly active in the two above mentioned. Croatian Sunday Alliance (CSA) has been established in 2017. It is an association of trade unions, academic, social and religious institutions as well as civic organizations. It's already mentioned that CSA as a member of European Sunday Alliance has significantly contributed to the promotion of free Sunday as a measure of active demographic policy. Free Sunday is particularly opposed to the competition of the burly capital owners. For decades they have been misrepresenting realities of the work on Sundays, falsely claiming, forexample, that it increases economic activities and employment rate in Croatia. However, no economic theory proves that and the available indicators disclaim it. Moreover, the data of Croatian Ministry of Finance – Tax Department Zagreb show far the lowest fiscal turnover in retail trade on Sundays and holidays. CSA, as stated above, significantly contributed to the promotion of the values of free Sunday. On behalf of it, Franciscan Institute for the Culture of Peace from Split conducted a research, in October 2017, in order to find out prevailing public attitudes on the phenomenon of (non)working Sunday. Results of this research authors compare with the results of public opinion survey conducted in May 2019 and use as the case study of Croatia. Public opinion survey in October 2017, conducted by telephone interviews, has been carried out by a specialized agency Ipsos Public Affairs. Since the views of the Croatian population aged 18 and older were interviewed, a two-step stratified random sample was used with the following stages:

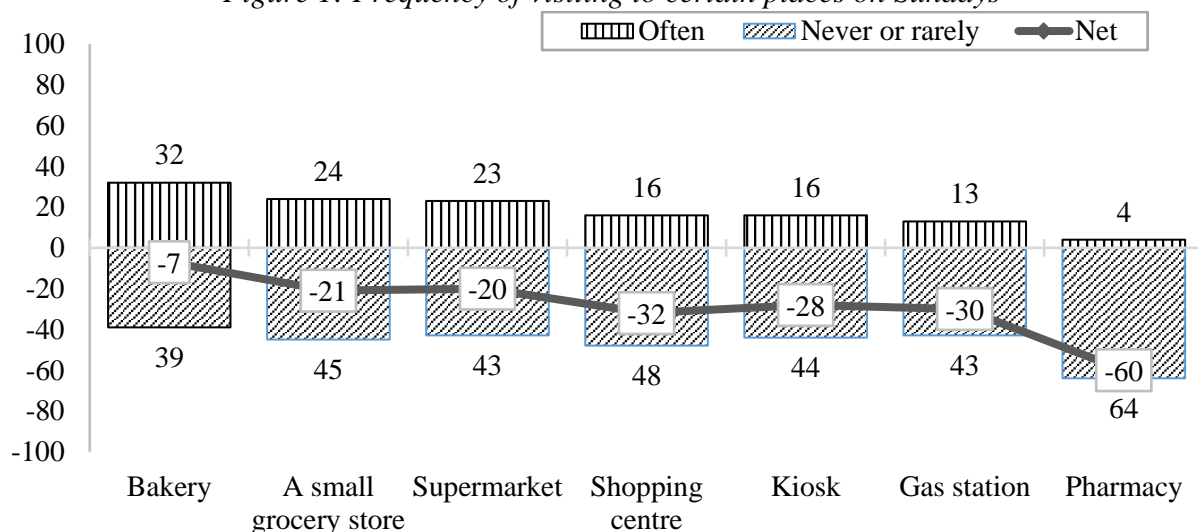
- By random selection of place of residence within the stratum - the stratums are defined by region (6 traditional regions) and size of the place of residence (4 categories);
- The household was chosen by random selection of the phone number;
- The respondent was chosen by quota.

Post stratification has been created on the basis of gender, age, size of residence, regions and education. The final realized sample consists of 603 respondents. From the results of this comprehensive research only some basic attitudes and answers to the relevant issues are presented in this paper. First of them is introduced on the Figure 1 with the answers to the following question.

*Figure following on the next page*

- Question: How often you, if ever, go to the next places on Sundays?

Figure 1: Frequency of visiting to certain places on Sundays



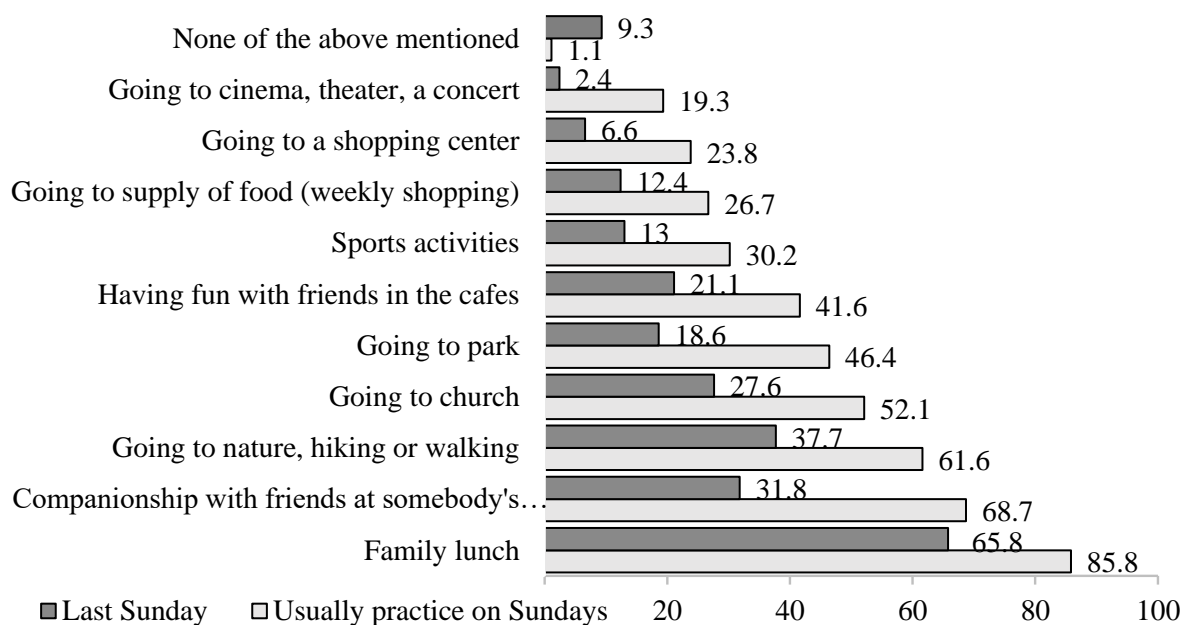
Source: Authors according Ipsos Public Affairs, 2017

The random stratified sample enabled authors to statistically analyse the answers to the aforementioned question for some demographic features. The frequency of going to the respective places has been statistically analyzed in relation to the answer: "I rarely or never visit them on Sundays". As far as methodology is concerned, testing of hypothesis about the difference in the proportions of the two statistical populations has been applied. At this point, the usual level of significance of the 5% test was used. The analysis has been carried out for all of the places visited on Sundays and the results are very similar for each of them. Therefore, below are presented more precise results of visiting the shopping centers on Sundays according demographic categories. Statistical analysis has shown that there is no statistically significant difference between the frequency of going to a shopping center on Sundays between men and women. Answer "I rarely or never visit shopping center on Sundays" gave 48% of male and 50% of female respondents. The same answer has been given by 47% of the urban and 52% of the rural population. It shows that neither their responses statistically differ significantly. Analysis of the profile of the respondents according to the level of education reveals that 45% of them who have elementary school education, 51% middle and 46% high school or college education »rarely or never« visit shopping center on Sundays. The respondents up to 30 years visits shopping centers on Sundays more often ( 41% rarely or never) while those between 45 and 60 years old do it the rarest ( 59% rarely or never). »Rarely or never« go shopping on Sundays 44% of the respondents between 30 and 44 years old and those over 60 do not differ much (45%). The analysis done according to the particular regions of Croatia shows that 56% of the population of Zagreb and its surroundings visits rarely or never shopping center on Sunday, in Slavonija 41%, in Kordun and Lika 57%, in North Croatia 43%, in Primorje and Istra 46% and in Dalmatia 49%.

Figure following on the next page

- Question: Which of these activities do you usually practice on Sundays and which one did you practice last Sunday?

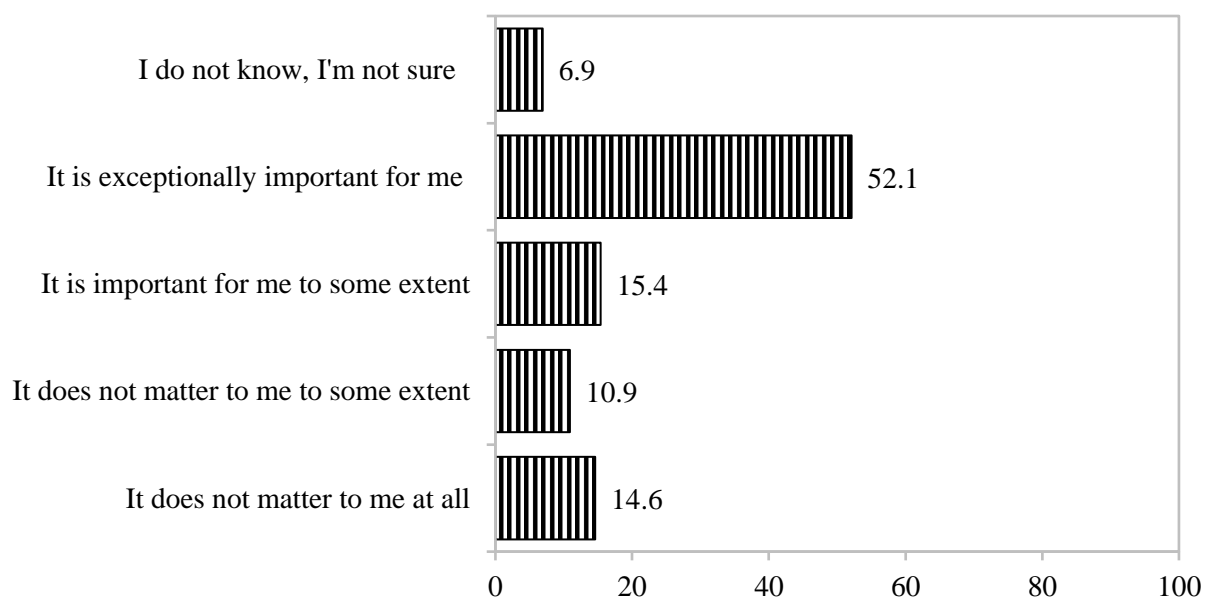
*Figure 2: Sunday activities*



*Source: Authors according Ipsos Public Affairs, 2017*

- Question: How important is it to you personally that you do not work within your regular business on Sundays?

*Figure 3: Attitude about personal work on Sundays*

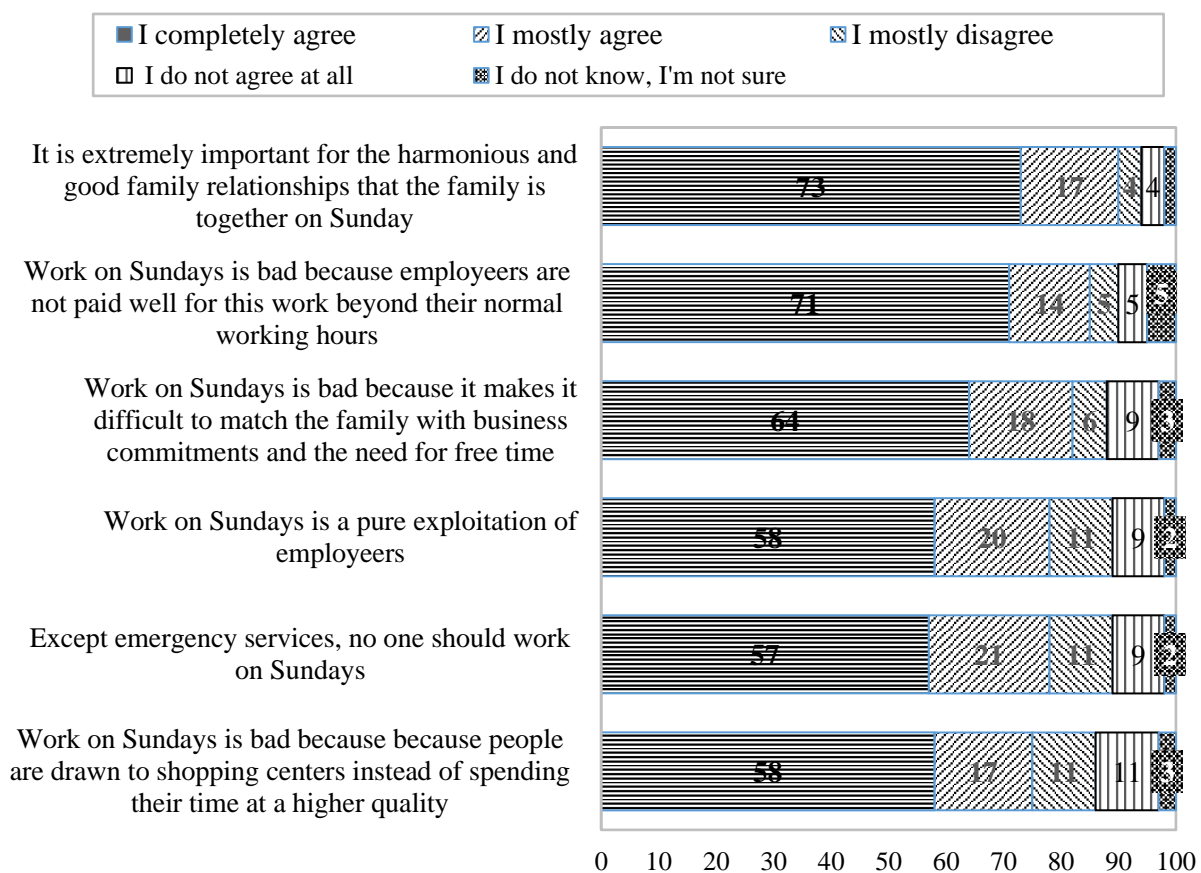


*Source: Authors according Ipsos Public Affairs, 2017*



Figure 2 shows very interesting information about people's attitudes towards activities that they usually practice on Sundays and which they did practice last Sunday. Although it is impossible to expect them to practice more than 3-4 activities on the previous Sunday, it is astonishing that there is so much disproportion in the percentage of responses. For example, although 23,8% percent of respondents say they usually go to a shopping center on Sundays, last Sunday they only went there up to 6,6%. The situation is similar with sports activities (30,2% of them usually practice sport and only 13% did it last Sunday) as well as with going to park (only 18,6 % of them were in park last Sunday although 46,4% claim it usually works on Sundays). In all other activities also exists statistically significant differences in answers about practicing the activity usually on Sundays in relation to the real practice last Sunday. Figure 3 presents attitudes about personal work on Sundays. It is important to emphasize that for even more than two thirds ( 67.5%) of respondents is important or exceptionally important not to work within their regular business on Sundays.

Figure 4: Attitudes about work on Sundays



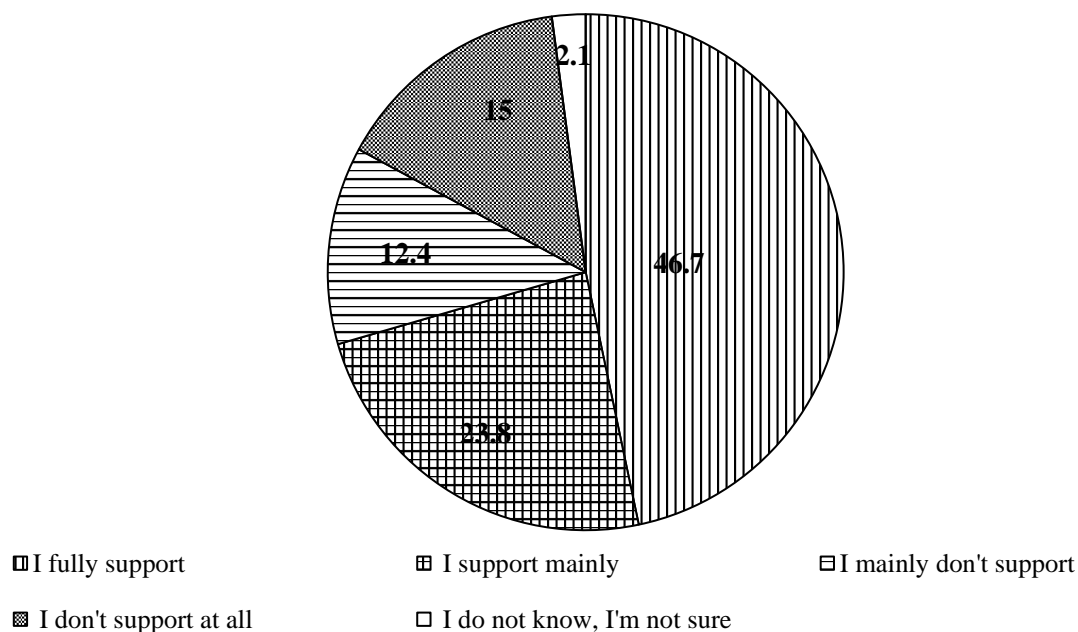
Source: Authors according Ipsos Public Affairs, 2017

For each of these statements of work on Sundays, respondents were supposed to decide for one of the answers offered on Figure 4. This picture really eloquently presents attitudes about work on Sundays. For 90% respondents its important for a harmonious and good family relationships that the family is together on Sundays. Even 85% of respondents consider work on Sundays to be bad because employees are not paid well for this work beyond their normal working hours. For even more than third quarters of respondents (78%) work on Sundays is pure exploitation of employees. The fundamental goal of the overall action of CSA is promoting restriction of work on Sundays on vital social institutions as police, hospital and similar. Since in Croatia there is no restriction of work on Sundays, the introduction of non-working Sunday in Croatian

legislation today is a dominant political issue. That's why public opinion on this issue gets so importance. Figure 5 presents attitudes towards supporting maximum limitation of work on Sundays. According to this public opinion survey, 70,5% of respondents support maximum limitation of work on Sundays while 27,4% of them don't support such kind of restriction.

- Question: Do you personally support maximum limitation of work on Sundays?

*Figure 5: Support of limitation of work on Sundays*



*Source: Authors according Ipsos Public Affairs, 2017*

In March 2019 a new public opinion survey, organized by Croatian representative in the European Parliament Marijana Petir, was carried out. The research was conducted by a specialized agency Promotion Plus on a way of computer-assisted telephone interviewing. The main objectives of the public opinion survey were to determine the attitudes of Croatian citizens about the introduction of free Sundays in stores and to determine buying habits on Sundays. Random sample of 1000 Croatian inhabitants aged over 18 were interviewed. The random sample is stratified by the counties and the size of the place of residence taking into account the socio-demographic characteristics of respondents by gender, age and education. On the direct question: "Do you agree to introduce a free Sunday in all stores in our country?" even 82.1% of the respondents gave a confirmed answer and 15,3% of the respondents disagreed. According to the data of the Central Bureau of Statistics in the Republic of Croatia, in March 2019, there were 1 384 227 employees and 47.7% of them were women. According to the same source in that period, there were 185 184 employees in the "Wholesale and Retail trade, repair of motor vehicles and motorcycles" and 56% of them were women. Women more often advocate for free Sunday. In this research, 87% of women support the introduction of free Sunday and 11% of them are against it. At the same time 77% of men are for, and 20% against the introduction of the free Sunday. Respondents of older age groups are more common proponents of free Sunday. While 88% of those over the age of 60 support the prohibition of work on Sunday for such restriction are 77% of respondents younger than 30 years. The most educated are more common opponents of free Sundays. While 20% respondents with high level of education are against free Sunday, there are only 5% opponents of nonworking Sundays among uneducated respondents.

Among the regions Zagreb and Central and mountainous Croatia have the largest share of opponents of the introduction of free Sunday. In these regions, 75% and 78% of respondents support the introduction of free Sundays while in Slavonia this percentage is 88% and in Dalmatia it reach to 89%. More advocates of free Sunday are in the groups with lower incomes. Respondents with income up to 4000 Kuna with proportion of 85% support free Sunday while those with income more than 10 000 Kuna do it with 67% of their answers. Although there are differences in the level of citizens' support, the introduction of free Sunday in each group of citizens has statistically significant more supporters than opponents. Moreover, this is true for all groups analyzed according to various socio-demographic characteristics. In spite of it, more than two-thirds of citizens (68%) buy on Sundays, of which even 18% buy every Sunday, mostly food products.

#### **4. CONCLUSION**

This paper wants to contribute to promoting non-working Sunday as one of the basis for well-being in general. After a brief review of historical background and European legislation, good practices in various European countries are presented. Different influences and consequences of free Sunday on social, economic, psychological, health, family well-being and demographic trends of social communities in contemporary Europe are being considered. Central part of the paper puts into the focus contemporary case study of Croatia. As an integral part of the EU, Croatia shares its destiny and negative consequences of the fact that in Croatia there is no legal limitation on the work on Sundays are obvious in many spheres of socio-economic and especially intense in family life. Because of that Croatian Sunday Alliance has been established in 2017. It is an association of trade unions, academic, social and religious institutions as well as civic organizations. The fundamental goal of the overall action of CSA is promoting restriction of work on Sundays on vital social institutions as police, hospital and similar. Since in Croatia there is no restriction of work on Sundays, the introduction of non-working Sunday in Croatian legislation today is a dominant political issue. That's why public opinion on this issue gets so importance. CSA as a member of European Sunday Alliance has significantly contributed to the promotion of free Sunday as a measures of active demographic policy. On behalf of it, Franciscan Institute for the Culture of Peace from Split conducted a research, in October 2017, in order to find out prevailing public attitudes on the phenomenon of (non)working Sunday. From the results of this comprehensive research in this paper authors mention only some basic attitudes and answers to the relevant issues. Answers have been statistically analyzed for some demographic features because random stratified sample enabled authors to did it. Methodologically, hypothesis testing about the difference in the proportions of the two statistical populations has been carried out. The analysis has been conducted for all questions from this research. In the same way, the results of the second public opinion survey, organized in May 2019, were statistically analyzed. Comparative analysis of results leads to a general conclusion that support for the introduction of free Sunday has significantly increased. While in October 2017 70,5% of respondents support maximum limitation of work on Sundays, in May 2019 82.1% of the respondents gave support for the introduction of free Sunday. It should be pointed out that although there are differences in the level of citizens' support between different groups created by various socio-demographic characteristics, the introduction of free Sunday in each group of citizens has statistically significant more supporters than opponents. This work is only a small part of the on-going research dealing with free Sunday phenomenon and the authors have presented the beginnings of extensive public opinion statistical analysis. Therefore, the results of further researches by the same authors, that promote the values of the non-working Sunday as the basis of well-being, can be expected soon.

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## FOUR SEASONS - THE BACKBONE OF CONTINENTAL TOURISM IN NORTHWESTERN CROATIA

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### **ABSTRACT**

*The continental part of Croatia, which has been bypassed by uncontrolled construction and expansion of tourism, abounds in riches that are yet to be discovered, explored and offered to a new generation of tourists, who will acknowledge the value of nature and its processes. The survey, conducted through social networking sites, should cast some light on the current interest in this type of tourist offer among specific age groups. The related field research focuses on exploring the possibilities of local communities and existing rural economies for providing additional services to voluntourists as well as examining the potential for adapting old, unkempt and neglected houses, and turn them into high-quality tourist accommodation. The continental tourism offer presented in this paper is a project aimed at the development of tourism in the northwestern continental part of Croatia. It is based on the idea of four visits to the same destination during different times of the year, each lasting three to seven days. Accommodation units are envisaged as renovated indigenous houses with gardens – old, abandoned and often derelict, but for this purpose adapted in accordance with the architectural heritage. The houses would be turned into holiday homes accommodating 4 to 8 people, at the same time staying true to their typical old architectural style. The selected destination would represent ‘a new temporary home’ for tourists who expect to return to the same place at different times of the year. In addition, the project would lay the foundations for renovating and revitalizing old local homes, at the same time preserving the architectural heritage. This type of tourism specifically relies on the participation of the domicile rural population, by allowing voluntourists to take part in indigenous lifestyle and everyday activities.*

**Keywords:** *Continental tourism, Domicile population, Four seasons, Old houses, Voluntourism*

### **1. MAN – A BIOLOGICAL BEING**

Man is a biological being. He has many features and characteristics that have been adopted and perfected throughout his evolution, but he is and must remain in his essence a biological entity – derived from and living in harmony with nature, where he is also to meet his end. Man's primordial need is to be and remain connected to natural processes because it is the only way for him to ‘exist’. Any moving away from his biological nature inevitably leads to alienation, dissatisfaction, frustration, depression, and isolation. These are the well-known ‘diseases’ of modern times, which, in fact, stem from the lack of connection with nature. The modern times show a human tendency to return to nature – in everyday life this translates to a walk in the fields, parks and forests, hiking, spending time with animals, exploring new places, and weekends in nature. When it comes to holidays, there is a similar trend of searching for more peaceful places and spending time in nature, not relying on pre-designed tourist routes or itineraries. A return to nature, waking and sleeping in accordance with the change between day and night, doing merely basic daily tasks important for survival, socializing with family and friends as well as meeting new people – the domicile population and their heritage, culture, customs and lifestyle, autochthonous gastronomic offer, etc., are interesting to many who seek new ways of relaxation away from the usual pace of life. The change of seasons reminds of movement, transience, but also recurrence.

It symbolizes development and change in man's life. The arrival of a new season brings about a new kind of life energy. Figure 1 shows the life cycle of a tree throughout the four seasons. The photos have been captured by the human eye, which found something special in each of them – therefore, they are not mere photos; they represent a complete experience of the time and mood specific for each stage in the tree's life. This is the very same energy that fuels human lives. Hence the need for re-establishing the connection with nature and taking part in its changes. Nothing can substitute for this most natural human sense of belonging.

*Figure 1: The four seasons in northwestern Croatia depicted in the life cycle of a tree*



*Source: The four seasons (photo: M. Banjeglav), Lidija Supančić ČAKOVČANKE I ČAKOVČANCI, accessed on 19 November, 2018*

The survey conducted for the purpose of this paper speaks in favour of such thoughts and the path towards a new type of tourism that could awaken the continental Croatia, i.e. the continental tourism of northwestern Croatia that would be known as 'Four Seasons'. The concept itself is based on the idea of utilizing autochthonous residential houses, reconstructed and adapted in order to be rented out as holiday homes. The latter, interesting in every season, would be used in cooperation with the domicile population through voluntourist activities.

## **2. THE POTENTIAL OF EXISTING RESIDENTIAL HOUSING OF CONTINENTAL CROATIA**

The countryside, perceived as the spatial unit having its own identity and heritage, has long been a matter of concern for the European countries. The significance of the rural heritage on a global scale is demonstrated by the fact that the UNESCO list does not include only the cities or the most representative buildings, but also the villages (Kranjčević, 2018). Rural houses that represent the material heritage of a village are certainly object of consideration, preservation, potential reconstruction, adaptation and revitalization. Rural areas are those in which, in the present or recent past, extensive land use through agriculture and forestry has prevailed. The settlements are predominantly smaller and of lower centrality with a prominent connection between constructed and natural landscapes.



Finally, rural areas are those considered by most locals to be rural, promoting a lifestyle based on a cohesive identity founded on the appreciation for the environment and one's own life as part of a whole (Lukić, 2010). In 2012, nearly 80% of the Croatian land area was classified as predominantly rural, which is well above the EU-27 average of 51.3%. According to Eurostat, 79.1% of Croatia's land area is classified as predominantly rural, 19.8% as mixed, and only 1.1% as predominantly urban. In the same year, 56.7% of the population resided in predominantly rural areas, while in EU-27 this percentage is 22.3% (<http://www.mps.hr/ipard/default.aspx?id=129>). According to the Council of Europe, rural tourism is defined as tourism present in rural areas including all its typical activities. It is characterized by a peaceful and preserved environment, absence of noise, communication with the locals, local food and learning about local lifestyles and rural jobs. More broadly, it can also be defined as encompassing all services / activities / types of tourism within rural areas, including hunting, fishing, tourism in nature parks, winter tourism, rural tourism, ecotourism, health tourism, cultural tourism, etc. (Baćac, 2011). When visiting Međimurje County, the northernmost county of the Republic of Croatia, a great number of old and abandoned rural homes have been discovered by direct observation or captured on camera. Looking for modern housing, owners often leave their own or inherited houses. Investing in old houses is not popular because of the relatively high financial costs, often related to dealing with dampness and decay, or the insufficient net floor area of the house. However, from an architect's point of view, a great damage is done by neglecting the architectural heritage. Even though it is impossible to force the owners to renovate these houses, it is necessary to protect them from falling out of use and further decay, which is our moral and legal obligation (NN RH; Zakon o zaštiti kulturnih dobara). While mostly old and abandoned houses have been directly observed, several beautifully reconstructed and renovated houses have also been noticed, evidently remodelled by the owners primarily for their needs – as holiday homes. To our great pleasure, the renovations have been in keeping with the tradition of the Međimurje cottage, within the frameworks of the inherited geometry, selection of material, and the original function. The results deserve our attention, as they stand out in every settlement and certainly represent a way in which similar small, cosy homes (which cry out: Fix me up and use me!) should be taken care of.

*Figure 2: Existing residential housing of Međimurje County – abandoned and neglected*



*Source: Photo taken by the author*

These old houses represent a valuable historical architectural heritage of Međimurje. The traditional buildings built 100 years, with their harmoniously balanced dimensions and measurement standards, characteristic spatial organization and interior details are, in fact, examples of the rarely preserved original housing structures, revealing historical ambience of undeniable cultural, monumental and ethnographic value. All the essential features specific for this type of traditional housing have been preserved (Mišljenje konzervatorskog odjela u Varaždinu).

*Figure 3: Examples of reconstructed and adapted residential houses*



*Source: Photo taken by the author*

For this reason, it is necessary to preserve such heritage and share it with people. Surely, one of the best ways of presenting a certain era and its specific residential style can be done through tourism.

### 3. A PROPOSAL FOR RECONSTRUCTION AND ADAPTATION OF A TOURIST HOUSE

The existing Međimurje cottage<sup>1</sup> is of a residential character, a single-storey house, partially a basement, with a cold attic. It is spatially organized in the following way: ganjek<sup>2</sup> (mostly on the east side), prva hiža<sup>3</sup> (south-facing, towards the street), kuhnja<sup>4</sup> (west-facing) and komora<sup>5</sup> (north-facing). The basement is a storage space, with a low ceiling and an independent external access (<http://korentd.weebly.com/me273imurski-rje269nik.html>). Such a house was once a residential space of the whole family, often including three generations. The modern way of living requires much more space and a bigger number of rooms, often exceeding the real needs of man. Međimurje cottage is an example of sustainable housing – a small house with a garden, meeting all one's needs in a minimal enclosed space, built from ecological materials and offering the possibility to spend time in one's own yard, including outdoor areas for growing vegetables, orchards, or a vineyard. Such a house represents sustainable construction primarily in terms of minimizing the interior space, which in turn minimizes energy consumption as well. Modern man will hardly accept the return to the "olden times". These sustainable homes offer a way to live in accordance with one's real needs, at least for a short time, as part of a specific tourism offer. This is an opportunity to raise awareness of the need for sustainability, which should be accepted as a worldview and a new way of life. Figures 4 and 5 show the proposal for reconstruction and adaptation of the old Međimurje cottage to turn it into a tourist house for 4-8 people. Building dimensions, exterior design, use of ecological materials, and yard with a garden and outside area for orchards, vegetables, and vineyards have been retained.

<sup>1</sup> *Međimurje cottage* – an old house, made of oak and poplar wood, as well as reed and clay mixed with sawdust or crushed straw. Walls are coated with clay mixed with straw, and when this layer is dried, the walls are smoothed and painted with white lime. The roof is made of straw. Frames of windows and doors are painted in brighter colours, such as red, blue or green, and the gable is carved and sometimes painted. Smaller *cottages* have a kitchen, only one room and a barn, while larger ones have two rooms divided by a kitchen. The hall and kitchen floors are earthen, while the floors in the rooms are made of oak. The family would mainly occupy the larger front room, while the back room would be the maid's personal space.

<sup>2</sup> *Ganjek* – the entrance area, i.e. the anteroom of the *Međimurje cottage*; in the first variant open, and later designed as an enclosed space.

<sup>3</sup> *Prva hiža* – the front room of the *Međimurje cottage*, or the family room, the space for everyday living and sleeping, commonly facing the street.

<sup>4</sup> *Kuhnja* – the kitchen of the *Međimurje cottage*, located in the central part of the building with the function of today's kitchen; space for storing food and eating.

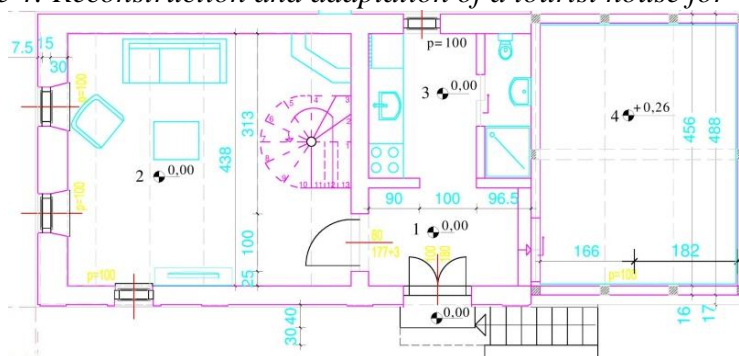
<sup>5</sup> *Komora* – a room in the *Međimurje cottage* for storing food, in most cases facing the back exterior or the farmyard; it is made of wooden exterior partitions, with a lower ceiling.



At the same time, the way in which the interior is organized is in keeping with the needs of modern man, but with minimal construction work. Thus, ganjek has been transformed into the entrance space, prva hiža designed as a living space (with the possibility of creating additional sleeping area for 2 people), while kuhinja becomes a small kitchen block with a mini-bathroom including a shower, a washbasin and a toilet. The latter is a minimum but necessary addition to the living space, satisfying the hygienic needs of contemporary man, who would rarely give that up. (As can be expected, the old cottages did not include a bathroom space. The toilet was outdoors, while the water was supplied from nearby wells.) Komora is envisaged as a sleeping space for 2-4 people, depending on the user's wishes. Below komora there is a basement space that can be used for food storage, but considering the modern-day conditions and possibilities of food supply, this space can serve other purposes, such as becoming a storage for bicycles, sports equipment or garden tools.

GROUND FLOOR PLAN: 1) entry space 2) living room 3) kitchen + sanitary block 4) bedroom

Figure 4: Reconstruction and adaptation of a tourist house for 4-8 people

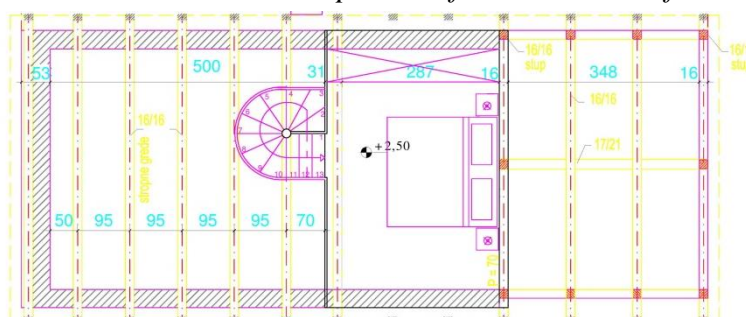


*Source: Author's own project documentation archive*

Since komora was sometimes made of external wooden partitions, most interventions are needed on the outer walls. It is also possible to close up the space by walls or even more effective solutions – e.g., replacing the wooden with glass walls in order to visually connect the interior and the exterior, and to allow contact with nature while inside the house.

ATTIC FLOOR PLAN: 5) bedroom (gallery)

Figure 5: Reconstruction and adaptation of a tourist house for 4-8 people



*Source: Author's own project documentation archive*

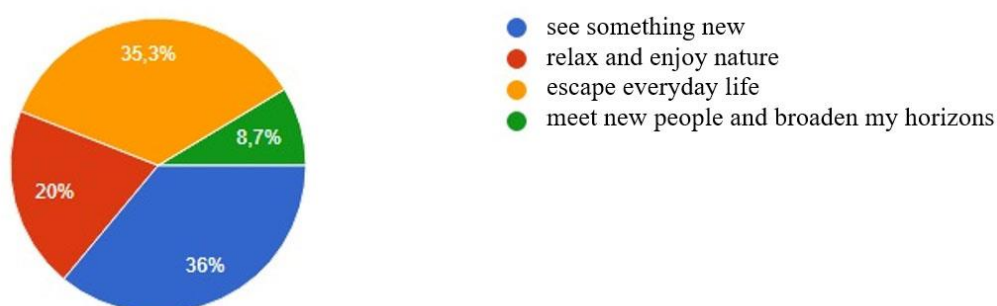
Međimurje cottage is a family house with a cold attic. For tourist needs, but also because of the attractiveness of the attic space, the project intends to demolish one part of the ceiling structure while the second part becomes additional sleeping space, with a gallery looking down to both

sides of the ground floor. The staircase is prefabricated and located in the living room. This creates a perfect open space – visually and aurally, the house offers a complete experience of shared living together with all its users. Sustainability of the house and its users is evident in every respect. It is also possible for the latter to get closer to each other, which is often what tourists renting a holiday home wish for, given that this is very difficult to accomplish in everyday life while struggling with work obligations, lack of free time and other daily tasks.

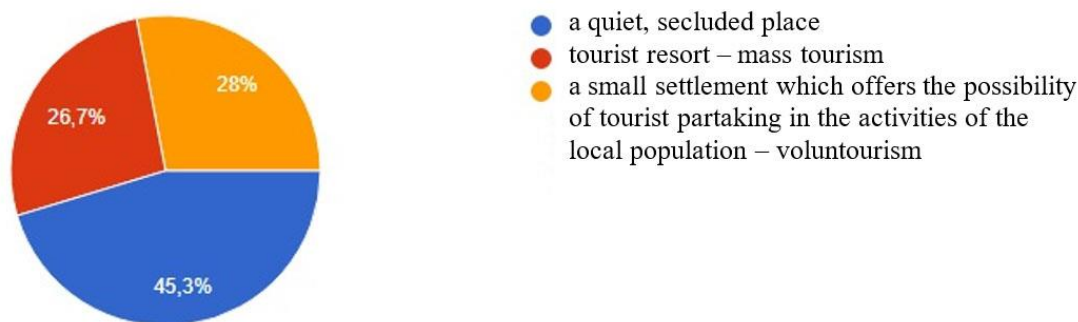
#### 4. A SURVEY OF THE INTEREST IN THE PROPOSED TOURISM OFFER

The Croatian Tourism Development Strategy until 2020, adopted by the Government of the Republic of Croatia in February 2013, outlines the basic characteristics of Croatian tourism and key prerequisites of its development, also defining the main components for ensuring high demand. Overall, Croatian tourism should be recognizable (branding), year-round (season extension), developed across the whole country, varied (product differentiation), innovative and personalized to meet the tourists' preferences. The survey was conducted electronically, via Google Forms, email and Facebook, in the period from 10 January to 2 February, 2019. (<https://www.google.com/intl/en/forms/about/>). It is necessary to determine whether the aforementioned Strategy is recognized by the potential users of what is here offered as well as to show the direction in which continental tourism is to be developed (<https://docs.google.com/forms/d/17vFUL>). A questionnaire composed of 15 questions was filled in anonymously. The task itself took no more than five minutes and all obtained data were later included in the statistical analysis. Of 150 respondents in total, 28.7% were male and 71.3% female. 19.3% of respondents were up to 25 years of age, another 19.3% were between 25 and 40 years of age, and 57.3% were over 40 years of age. Automatic data processing gave results which were later analyzed and are now being presented in this paper. Figures 6, 7 and 8 show the answers to the questions about reasons and motivations to travel, desirable destinations, and expectations from the chosen tourist destination. Reasons and motivations differ significantly, although the respondents mostly opted for 'See something new' or 'Escape everyday life'. Almost half of the respondents are interested in spending their holiday in a quiet, secluded or small place among the local population. Interestingly, considerably fewer respondents are fond of mass tourism, which was mostly present in the second half of the 20th and the early 21st centuries. This is an indication that tourism has its own development path and that it is time to make some changes to the current offer, in line with the newly established needs and lifestyles.

*Figure 6: Analysis of the answers to question 4; reasons and motivations to travel*



*Figure following on the next page*

*Figure 7: Analysis of the answers to question 5; desirable destinations of travel**Figure 8: Analysis of the answers to question 7; expectations from the tourist destination*

Clearly enough, the responses shown in Figure 8 are in keeping with the current trend of modern tourism, i.e. providing a peaceful environment and a free choice of activities. Only 6% of respondents opted for a classic offer of organized time and activities while staying at a tourist destination. In addition, the following questions and analysis of the responses show that 60% of respondents find the offer of multiple visits to the same destination in different seasons certainly very interesting, 21.3% are not sure about it, while 18.7% did not have such preferences, needs or possibilities. Voluntourism<sup>6</sup> as a passive-active holiday option is rejected by 15.3% of respondents, while 12.7% are definitely interested in it. At the same time, 15.3% think it is an interesting offer and 56.7% say that their decision would depend on what is offered. Among the interested respondents (more than 80%), 26.4% mention acquisition of new knowledge and skills as motivation for voluntourism, 28.8% would like to learn about the destination through their work and active participation, 26.4% would like to contribute to the development of the local community, and 18.4% simply say they want to fill their days while on holiday. More than 70% of respondents would choose to stay in an autochthonous house, while only 30% would opt for a hotel-apartment complex. 72% of respondents selected the shown holiday home (Figure 9) as the preferred holiday accommodation.

*Figure following on the next page*

<sup>6</sup> Voluntourism – a way for tourists to get to know the destination better by being involved in the activities as volunteers and thus playing an important part in the local community.

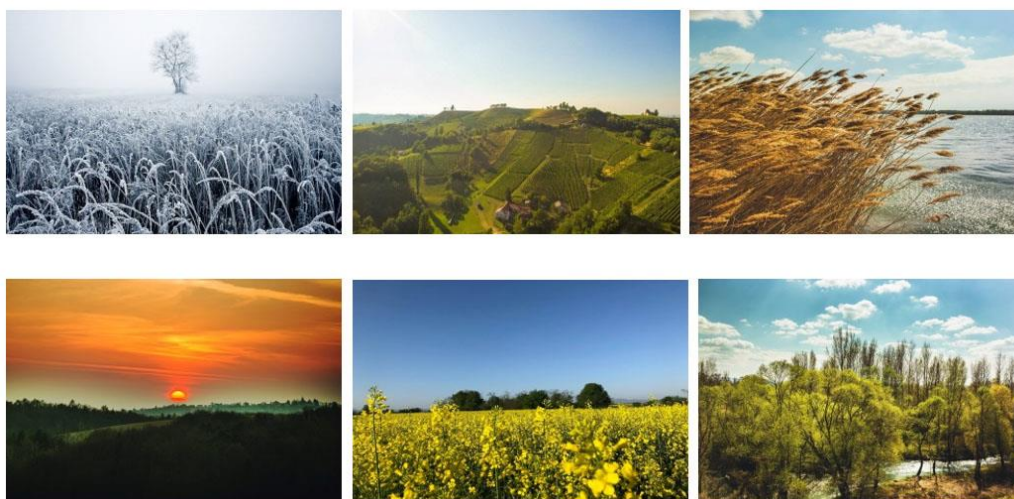
*Figure 9: An autochthonous house as a holiday accommodation*



*Source: Author's own photograph*

In the questionnaire, the respondents were also shown a photograph of a tree throughout the four seasons (Figure 1). According to the analysis of their responses, 60.7% of respondents live in accordance with the cycle of seasonal changes, feeling this to be a part of them. Furthermore, 23.3% of respondents feel that it would be interesting to experience the changing of seasons because it is not part of their everyday life, while 16% of them see nothing special and touching about the photo taken. In conclusion, 84% of respondents live or want to live in accordance with the change of seasons. Question number 14 analyses the respondents' attitudes towards nature based on the feelings provoked by the photographs in Figure 10, depicting the nature of the continental northwestern part of Croatia throughout the four seasons. This part of Croatia, namely Međimurje County, takes pride in its hills and mountains, rivers, creeks, fields, forests, meadows and, in general, beautiful panoramas.

*Figure 10: Nature of the continental Croatia during the four seasons*



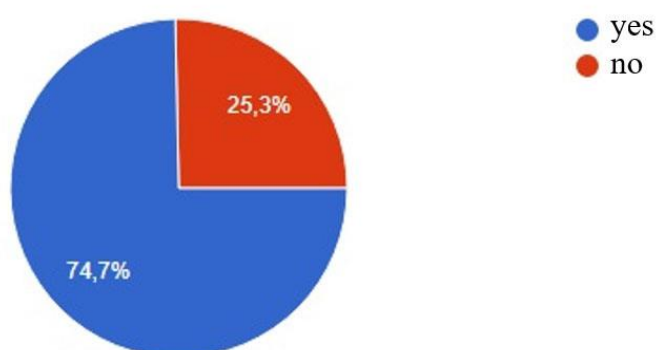
*Source: <https://www.facebook.com/lovelymedjimurje/photos/a>, accessed on 12 October, 2018*

Only a small number of respondents, 5% in total, are indifferent to nature and its processes, while 55% of them would like to visit Međimurje and revel in the beauty and fruits of spring, summer, autumn and winter. 40% of respondents are certainly interested in experiencing at least one season in such an environment. Question 15 tried to summarize the impressions from the previous questions for the purpose of drawing a conclusion. The respondents were asked to answer the following question: "Can you imagine spending your holiday in a small autochthonous house, at the same time joining a new group of people and taking part in their



daily routine, i.e. for this to become your new way of refreshing your physical, mental and spiritual health and something that you would do four times a year, in accordance with seasonal changes, as part of a single holiday package?” Figure 11 shows that 75% of respondents are interested in a tourism offer that includes accommodation in an autochthonous house with repeated visits in accordance with seasonal changes. This implies that continental tourism could be based on the ‘Four Seasons’ offer. The answers to the previous questions show that the possibility of engaging in voluntourism introduces new opportunities for the development of local communities and their offers.

*Figure 11: Analysis of the answers to question 7; interest in a tourism offer that includes accommodation in an autochthonous house with repeated visits in accordance with seasonal changes*



A survey among potential foreign tourists was also conducted, parallel to the previously analyzed questionnaire (<https://docs.google.com/forms/d/1Kh80>). Due to the small number of respondents (mainly from the United Kingdom, Finland and Slovenia), this survey can not be considered relevant for further statistical processing and analysis. However, it has shown that the opinions are very similar, with the exception of foreign tourists being considerably less interested in voluntourism in favour of sports activities on holiday. Still, the interest shown in staying at an autochthonous holiday house is extremely high (up to 95%).

## 5. VOLUNTOURISM AND ITS POTENTIAL

Partaking in the activities of the local community in the destination of choice is a relatively new phenomenon in tourism. It provides the possibility for tourists to get to know the destination better through everyday life of the domicile population, while also filling their leisure time on holiday. It is an opportunity to acquire new knowledge and skills, and meet new people, at the same time contributing to the development of the local community itself. Everything should be based on volunteering only, without any other kinds of interest. The partaking itself is spontaneous and optional in the same way as the time spent ‘working’. This type of tourists do not give up their spare time nor go to work, but only do the things of their own preference, i.e. what they find fulfilling and inspiring. They work as long as it makes them happy. They can take part in a different activity every day, broadening their horizons and knowledge, progressing, having fun and relaxing. And even though they can at any time give up, they can also make an effort in a certain activity and greatly contribute in a specific area. In the long run, the interaction between the locals and the tourists may benefit both – the tourists are presented with new challenges and opportunities, developing new skills, while the local community finds new inspiration and breaks the routine. It is important to distinguish voluntourism from exploitation. The purpose and goal of voluntourism must never be about gaining profit from tourists's work.

Considering the possibilities of continental tourism in northwestern Croatia, one can conclude that local communities are extremely rich in various activities that could become part of the voluntourist offer. Given that the first part of this paper deals with accommodation units modelled upon the traditional Međimurje cottage, the following text focuses on Međimurje County. More specifically, in Međimurje there are 283 registered associations and societies of various interest groups, primarily dedicated to sports (football, basketball, handball, chess, archery, hiking, etc.) as well as culture and art (music, folklore, visual arts, etc.). Various other associations, organizations and clubs include an ecological organization, hunting and mushroom picking clubs, voluntary fire brigades, agrarian society, association for integrated fruit production, astronomical society, association of innovators, nautical club, yoga society, geographic association, association for creative work with children and young people, club of computer game aficionados, society for the coexistence with nature, society for biological dynamic management, environmental school, animal protection association, and many more (Miljković, Rijavec, Miljković-Kečar, 2018). Apart from the above mentioned, it is also possible to establish cooperation with farms and include tourists in the process of food production (exclusively for their own needs), tending to domestic animals, working in fields, forests and doing similar activities that would directly involve them in the life of the village. Ultimately, physical work would help them relieve stress accumulated through intellectual work. Finally, there are a lot of options that can be taken into consideration. Now that potential tourists have already shown their interest in the survey and the growing trend of voluntourism is evident, the will and the readiness of local communities is of utmost importance for the realization of the project.

## **6. CONCLUSION**

Continental Croatia is characterized by the change of four seasons with temperatures ranging from the extreme -200C in winter to the extreme +400C in summer. This type of climate includes rainfall, hail, frost and snow, summer heats and droughts, winds of all directions and various intensity, as well as changing lengths of days and nights. Nature responds to such conditions with different vegetation and fruits, affecting our experience of it and making the gastronomic offer autochthonous. The specific characteristics of this climate might be interesting to those who live in milder or more severe climates, without the obvious change of seasons. Therefore, this paper focuses on 'Four Seasons' as a possible offer of continental tourism, to which survey respondents already reacted positively and thus justified our expectations. This type of tourism offer would include accommodation in autochthonous houses. Upon their reconstruction and adaptation, these tourist homes could offer accommodation in small settlements, along with their yards and gardens, orchards, and vineyards. This provides the possibility of staying in a peaceful and secluded environment, away from mass tourism, while spending time with family and friends, in direct contact with nature. In this way, not only would the traditional house accommodate tourists, but the abandoned and derelict houses would be renewed, gaining a new purpose and being restored to life, thus preserving the spirit of a particular place and time. Four visits to the same destination create continuous interpersonal relationships between tourists and locals, and give tourists opportunities to learn more about the destination. One can also expect a recurring interest in experiencing the same type of holiday as well as the repeated partaking of tourists in the development of local communities, which might invigorate and motivate the rural population to create a new lifestyle. All activities envisage participation and assistance of the local communities, which will involve tourists in their daily activities and give them insight into traditions of the place, provide a fresh perspective, new experiences, knowledge, skills, and the like. Moreover, tourists will also be able to provide for themselves by planting fruit trees, making homemade liqueurs, picking fruit, harvesting grapes, taking part in wine-making,

learning old crafts, and organizing theme nights (e.g. ethno music, Kajkavian poetry, folklore, competitions in preparing autochthonous dishes, etc.). What has so far been discussed is volunteer tourism, or voluntourism in short, which is becoming more and more popular and represents a branch of modern tourism. The chosen destination would be 'a new temporary home' for tourists who expect to return to the same place, but in a different season. Psychological studies on the impact of personal values and lifestyles on tourism have shown that there are five categories of tourists, namely family people, idealists, autonomous individuals, hedonists and conservatives. With regard to their specific personal values and lifestyle, the idealists are particularly interesting in this context – they are sensitive to justice, demonstrate responsible behaviour, flexibility and tolerance, and enjoy sports and outdoor activities. They prefer rural areas and do not like to spend a lot, mostly booking holidays in the countryside at reasonable prices and with the opportunity to participate in rural life. 'Four Seasons', the proposed type of continental tourism in northwestern Croatia that has been discussed throughout this paper, is tailor-made for tourists who fall into the category of idealists. [10]

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## ANALYSIS OF EU INVESTMENT FUNDS IN REGIONAL DEVELOPMENT FOR THE PERIOD 2021-2027

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### ABSTRACT

*European funds are financial instruments for the implementation of individual EU public policies in the Member States. The public policies of the European Union, the Member State and the Candidate Country are the basis for determining the objectives whose achievement will be supported by funding through EU funds. EU funds are European citizens' money, which, in accordance with certain rules and procedures, is allocated to various beneficiaries for the implementation of projects that should contribute to the achievement of the key EU public policies. Among other things, EU funds can finance activities related to investments in infrastructure providing basic services to citizens in the fields of energy, environment, transport and information and communication technologies, as well as investments in social, health and educational infrastructure. In the coming period, EU investment from 2021 to 2027 will focus on five main goals: a smarter Europe, a greener carbon-free Europe, a more connected Europe, a more social Europe and a closer Europe for citizens. The Investments in question will help improve regional development in the EU Member States, with the largest emphasis (as much as 30% of the total EUR 1.135 billion) going to the Nature and Environment framework. Among potential beneficiaries who will be able to use the funds in question are research centers, local and regional authorities, schools, corporations, training centers, state administration, small and medium-sized enterprises, universities, associations are highlighted, and besides these funds will be available to public bodies, some private sector organizations (especially small businesses), NGOs and volunteer organizations. This paper presents an analysis of EU Investment in the period from 2021 to 2027, outlines its financial perspective (with emphasis on the "Nature and Environment" framework) and gives an overview of potential future investments.*

**Keywords:** *Development, Environmental policy, EU funds, Investment*

### 1. INTRODUCTION

The European Union (EU) is a unique economic and political union between the 27 EU countries that together cover most of the European continent. The precursor to the EU was created after World War II, and the first steps were to foster economic co-operation, in a way that countries which trade with each other become economically interdependent and more likely to avoid future conflicts. The result was the European Economic Community (EEC), created in 1958, which initially increased economic cooperation between six countries: Belgium, Germany, France, Italy, Luxembourg and the Netherlands. Since then, 22 other members have joined the Union and a huge single market (also known as the "internal" market) has been created that continues to grow to its full potential. On 31 January 2020, the UK left the European Union. What started as a purely economic union has today evolved into an organizational area that extends from climate, environment and health to external relations and security, justice and migration. The change of name from the European Economic Community (EEC) to the European Union (EU) in 1993 reflected this. [1]



The goals of the European Union are: to promote peace, its values and the well-being of its citizens, offer freedom, security and justice without internal borders, to achieve sustainable development based on balanced economic growth and price stability, having a highly competitive market economy with full employment and social progress, to establish environmental protection, combat social exclusion and discrimination, promote scientific and technological progress, enhance economic, social and territorial cohesion and solidarity among EU countries, respect its rich cultural and linguistic diversity, establish an economic and monetary union whose currency is the euro. [1] It is important to say that the European Union was initially conceived as a pillar of creating closer cooperation between the people and countries of Europe by gathering resources and securing and safeguarding freedom and peace. In the 21st Century, the European Union has a mission to maintain and build peace between Member States, to unite European countries in practical cooperation, to secure a secure life for European citizens, to promote economic and social solidarity, to preserve European identity and diversity in a globalized world, and to spread the values that are common to Europeans. [2]

## **2. EUROPEAN UNION FUNDS AND FINANCIAL PERSPECTIVE 2014-2020**

European funds are financial instruments for the implementation of individual EU public policies in the Member States. The aforementioned public policies of the European Union, the Member State and the Candidate Country are the basis for determining the objectives whose achievement will be supported by funding through EU funds. EU funds are the money of European citizens, which, in accordance with certain rules and procedures, is allocated to various beneficiaries for the implementation of projects that should contribute to the achievement of the aforementioned key EU public policies. European public policies are adopted for a period of 7 years and are referred to as the financial perspective. Currently we are in the financial perspective 2014-2020, which was preceded by the 2007-2013 financial perspective. Funding is managed according to strict rules to ensure there is tight control over how funds are used and that the money is spent in a transparent, accountable manner. As a group, the 27 EU Commissioners have the ultimate political responsibility for ensuring that EU funds are spent properly. But because most of the funding is managed within the beneficiary countries, responsibility for conducting checks and annual audits lies with national governments. One of the most important public policies of the European Union is the Cohesion Policy, for which in the 2014-2020 financial period EUR 351,8 billion was initially allocated. The main purpose of the Cohesion Policy is to reduce the significant economic, social and territorial differences that exist between the regions of the European Union, but also to strengthen the global competitiveness of European economy. The European Union's cohesion policy is funded by three major funds (Cohesion Fund, European Agricultural Fund for Rural Development and European Maritime and Fisheries Fund), with two more available in this financial perspective. The European Regional Development Fund and the European Social Fund are also known as the Structural Funds, and all five funds have the common name European Structural and Investment Funds (ESI Funds). Over 76% of the EU budget is managed in partnership with national and regional authorities through a system of "shared management". [8] The purpose of the aforementioned funds is as follows:

- Cohesion Fund (CF) - for EU Member States whose gross national income per capita is less than 90% of the EU average and finances projects in the field of transport and the environment;
- European Regional Development Fund (ERDF) - investment in productive investment with a view to job creation, infrastructure investment, and local and Small and medium-sized enterprises development;
- European Social Fund (ESF) - fostering entrepreneurship and helping employees find better jobs;

- European Agricultural Fund for Rural Development (EAFRD) - improving governance and control over rural development policy; investing in establishing ecological and territorial balance, protecting the climate and introducing innovations in the agricultural sector;
- European Maritime and Fisheries Fund (EMFF) - providing funding to the fishing industry and coastal communities with a view to adapting to changing conditions in the sector and achieving economic and environmental sustainability. The fund is designed to ensure sustainable fisheries and the aquaculture industry (fish, shellfish and underwater plants). [8]

### **3. NEW FINANCIAL PERSPECTIVE FOR THE PERIOD 2021 – 2027.**

In May 2019, the European Commission proposed a modern budget for the period 2021-2027. The Commission has proposed funding for new and urgent priorities such as research, innovation, youth, the digital economy, border management, security and defense. Expenditure on research and innovation through the enhanced Horizon Europe program is EUR 100 billion, followed by increased security of EUR 4.8 billion, defense of EUR 13 billion and border and migration management of EUR 34.9 billion. Erasmus + funding will also double to EUR 30 billion and boost anti-fraud to EUR 181 million. [3] In a Communication published on 2 May 2018, the European Commission proposed a budget of EUR 1135 billion for the period 2021 - 2027, ie. 1,114% of EU-27 gross national income. The financial framework proposal has seven chapters which are as follows:

- 1) The single market, innovation and digital issues;
- 2) Cohesion and values;
- 3) Natural resource and environment;
- 4) Migration and border management;
- 5) Security and defense;
- 6) The EU's neighborhood and the world;
- 7) European Public Administration.

Within the new cohesion policy for the period 2021 - 2027, five key objectives have been announced:

- 1) Smarter Europe - fostering smart and innovative economic transformation. This objective is aimed at innovation, digitization, economic transformation and support for Small and medium-sized enterprises;
- 2) Greener Europe - A low-carbon Europe by promoting the transition to clean and equitable energy, green and blue investments, a circular economy, climate change adaptation and risk management and prevention. The stated objective is to continue implementing the Paris Agreement and investing in energy transition, renewable energy and combating climate change;
- 3) A more connected Europe – with strategic transport and digital networks;
- 4) A more social Europe - implementing the European pillar of social rights and supporting quality employment, education, skills acquisition, social inclusion and equal access to health care;
- 5) A Europe Closer to Citizens - Promoting Sustainable and Integrated Development of Urban, Rural and Coastal Areas and Local Initiatives [4].

Regional development investment will focus on the first two objectives and 65% to 85% of the European Regional Development Fund and Cohesion Fund resources will be allocated in these priority areas, depending on the wealth of the Member States. [4] The scope of support from the European Regional Development Fund will include investment in infrastructure, access to services, manufacturing investment for small and medium-sized enterprises, equipment, software and intangible assets, in information, communications, studies, cooperation,

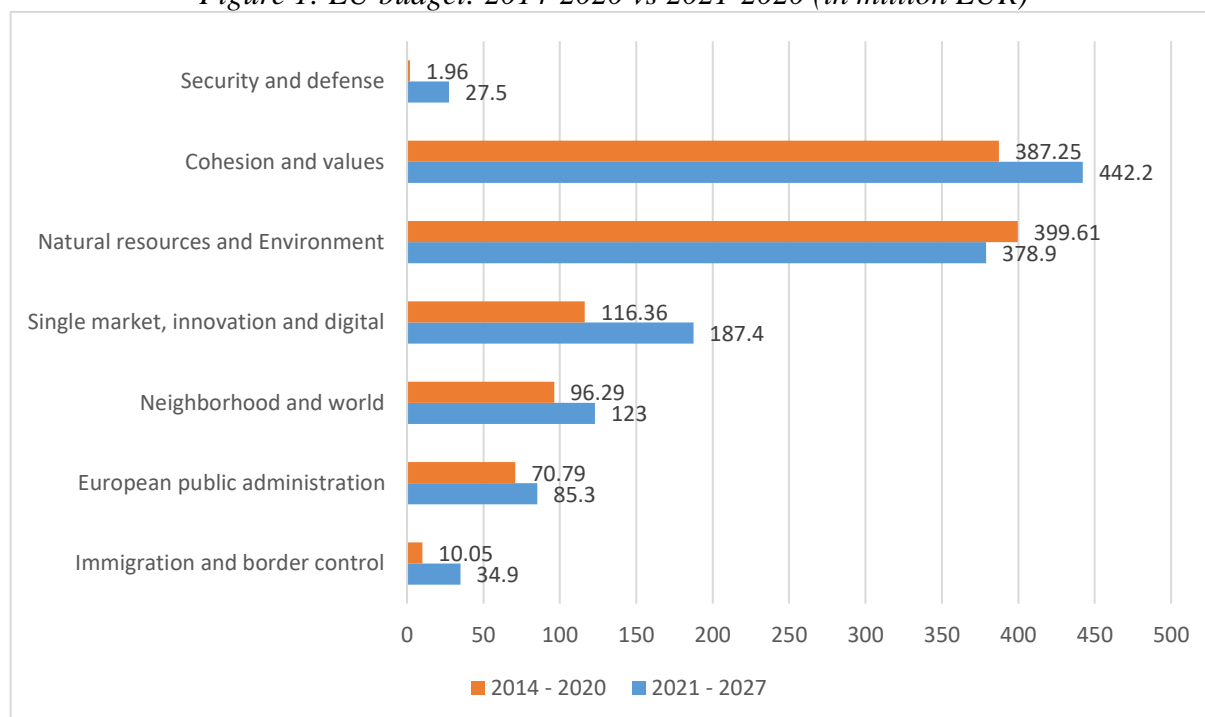
networking, exchange of experience and activities including clusters, and technical support. The new proposal for a Common Provisions Regulation regulates provisions under shared management from the European Regional Development Fund, the Cohesion Fund, the European Social Fund plus, the European Maritime and Fisheries Fund, the Asylum and Migration Fund, the Internal Security Fund and the Management Instrument - Borders and Visa, European Maritime and Fisheries Fund, the Asylum and Migration Fund, the Internal Security Fund and the Management Instrument borders and visas. These seven funds, implemented in partnership with Member States, have been consolidated by a single rulebook to precisely facilitate synergy between the funds. In December 2019, the General Business Council of the European Union held a policy debate on the multiannual financial framework for 2021 - 2027, and the representative office proposed a total level of EUR 1 087 billion, which is 1.07% of gross national income with 27 members. The stated amount is distributed as follows:

- EUR 323 billion for the Cohesion Policy, accounting for 29.7% of total funding;
- EUR 334 billion for support and development of agriculture, which is 30.7%;
- EUR 326 billion for other programs, including the new priority axes, 32.8% of total appropriations.

Also in December 2019, the European Council met, pointing out that the goal is to achieve a climate-neutral EU by 2050, which will lead to significant opportunities for economic development, new business models and markets, new jobs and technological development, and that the key role in the new era is to have forward-looking policies in the field of research, development and innovation. The Presidency has proposed that at least 25% of EU funding be diverted to support climate issues [5]. It is for this reason that the European Council endorsed the announcement that, from 2021 to 2030, investments should focus on climate and environmental action. Cohesion policy will invest in all regions, but as before, there are basically three categories, less developed, transitional and more developed regions. In addition to allocating GDP per capita, new criteria are being introduced, such as youth unemployment, low levels of education, climate change and the acceptance and integration of migrants, while the outermost regions will continue to benefit from specific EU support.

### **3.1. Budget Review for the EU 2021-2027 Perspective**

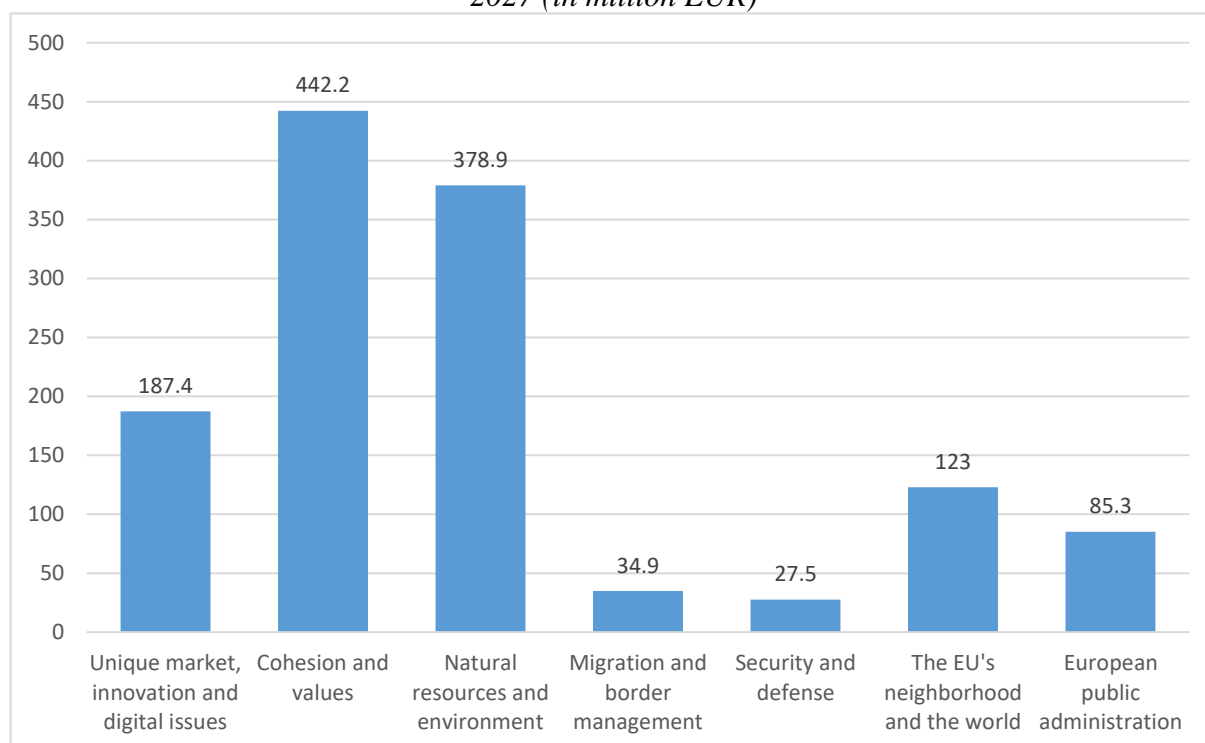
In the upcoming period 2021 - 2027, the Cohesion Policy will keep on investing in all regions in the EU which will still be based on 3 categories (less-developed; transition; more-developed). The method of allocating funds will continue to be largely based on GDP per capita as has been the case so far. New criteria will also be added (such as youth unemployment, low levels of education, climate change and the reception and integration of migrants) to better reflect the reality “on the ground”. To get an idea of how the current proposals have changed, comparison with the previous budget for the period 2014 – 2020 will be made (Figure 1.). Despite the European Commission pledging to invest heavily into green policies to tackle climate change as part of its Green Deal package, the overall budget for natural resources and the environment has actually been reduced. This is partly because the Commission is proposing to cut the budget for agriculture, livestock and fisheries to increase the money allocated for climate action and the transition to a greener economy. The most significant increases between the two budgets are in immigration and border control, which will now account for 2.72% (compared to 0.9% in the previous budget), and security and defence (2.14% compared to 0.18% in the previous budget). Funds allocated to the single market, innovation and the digital economy will also increase to account for 14.6% of the budget, up from 10.75% in 2014-2020. The budget for neighbourhood and foreign policy is also on the up.

*Figure 1: EU budget: 2014-2020 vs 2021-2027 (in million EUR)*

Source: [3]

Cohesion Policy will further support locally led development strategies and will be empowering local authorities in the management of the funds. The urban dimension of Cohesion Policy will also be strengthened, with 6% of the ERDF dedicated to sustainable urban development, and a new networking and capacity-building programme for urban authorities will be implemented which will be called European Urban Initiative. [3] As it was mentioned before, the European Commission proposed a budget of total EUR 1 279 billion for the upcoming period 2021 - 2027, which is around 1,114% of EU-27 gross national income. The financial framework proposal has seven chapters (The single market, innovation and digital issues; Cohesion and values; Natural resource and environment; Migration and border management; Security and defense; The EU's neighborhood and the world; European Public Administration) with several sub-chapters. The distribution of finances by these seven major areas is shown in Figure 2. Within the chapter on the Single Market, Innovation and Digital Areas, funds are allocated to Research and Innovation for which EUR 91 028 million is available, Strategic Innovation for which is available EUR 44 275 million, Single Market EUR 5 672 million and Space EUR 14 404 million. The Cohesion and Values chapter covers Regional Development and Cohesion (EUR 242 209 million), Economic and Monetary Union (EUR 22181 million), Investments in People, Social Policy and Values (EUR 123 466 million). Furthermore, the chapter "Natural Resources and the Environment" covers Agriculture and Maritime Affairs (EUR 330 724 million) and Environment and Climate Change (EUR 5 085 million). "Peacekeeping and Border Management" is divided into Migrations for which EUR 9 972 million is planned and Border Management for which EUR 18 824 million is planned. The fifth chapter, Security and Defense, covers Security (EUR 4 255 million), Defense (EUR 17 220 million) and Crisis Management (EUR 1 242 million). Within the chapter "EU Neighbourhood and the World" the funds are divided into External Actions for which EUR 93 150 million is planned and Pre-accession assistance within which EUR 12 865 million is foreseen. For the last chapter, "European Public Administration", a total of EUR 75 602 million has been foreseen, which can be spent on European schools and pensions, as well as the administrative costs of the institutions. [2]

*Figure 2: Financial framework proposed by the European Commission for the period 2021 – 2027 (in million EUR)*



*Source: [3]*

#### **4. POSITIVE SIDES OF NEW BUDGET FRAMEWORK**

One of the positive sides is the unification of seven different Funds with one rulebook. For example, the cohesion of Cohesion Policy funds and the Asylum and Migration Fund will facilitate the establishment of local strategies for the integration of migrants, supported by synergistically applied EU funds. Funds from the Asylum and Migration Fund will focus on the short-term needs of migrants upon arrival, and Cohesion Policy will support their social and professional integration [4]. Furthermore, a positive new perspective is that businesses and businesses using EU aid will reduce their administrative burden and make it easier to apply for funds using simplified costing options. In addition, the Commission proposed lighter checks for programs with good results to date, and increased reliance on national systems and extension of the single audit principle to avoid double checks [4]. Also, due to the success of the Interreg regional and cross-border cooperation pilot project, Member States will be able to overcome cross-border obstacles and develop shared services. The Commission has proposed the creation of cross-regional innovation instruments, and regions with related smart specializations will receive additional support for building pan-European clusters in priority sectors such as large-scale data processing, home economics, advanced manufacturing and cyber security. The new framework facilitates the combination of grants and financial instruments, and contains specific provisions seeking to attract more private capital. Due to a lack of investment, Member States will be able to transfer part of their cohesion policy funds to the InvestEU fund on a voluntary basis, thereby obtaining the right to a guarantee offered by the EU budget [4].

##### **4.1. Nature and Environment framework**

By their very nature, environmental problems, including climate change, transcend political, legal and man-made boundaries that cannot be adequately solved by Member States alone. EU intervention in the form of a dedicated instrument for environment and climate, including energy efficiency and small-scale renewables, is required to efficiently address such problems,

thus avoid coordination failures and complement environment and climate mainstreaming across the EU budget with targeted actions. Most environmental assets are public goods that are unevenly distributed across the EU. The obligation to preserve them calls for a consistent application of the principles of responsibility sharing and solidarity. Consistency across the EU on the application of EU environmental and climate legislation and policies as well as the provision of an EU-level platform for sharing best practices and know-how is crucial. Facilitating a clean energy transition contributes to both environmental and climate objectives by contributing to better indoor and outdoor air quality, circular economy and efficiency of resources. It has strong added value by stimulating a competitive and sustainable Union economy. Furthermore, supporting energy efficiency is one of the most cost-effective ways of decarbonising our economy. The programme will contribute to:

- The shift towards a circular, resource and energy-efficient, low-carbon and climate-resilient economy;
- The protection and improvement of the quality of the environment;
- Conserving nature and halting and reversing biodiversity loss. [6]

The grants and public procurement part of the LIFE programme will continue to be directly managed by the Commission with the support of an executive agency. The programme will be simplified in particular as regards the procedures for the applicants/beneficiaries. Novelties also include a greater strategic flexibility and ways to achieve a more balanced territorial coverage. Financial Instruments for Environment and Climate Action will be implemented in the InvestEU Fund, in particular in its Sustainable Infrastructure window and the programme itself will be structured around two main fields of actions:

- Environment: Nature and Biodiversity; and Circular Economy and Quality of Life;
- Climate Action: Mitigation and Adaptation; and Clean Energy Transition. [6]

The LIFE Programme fits into the EU's existing priorities on environment, climate, energy and associated policies. It is complementary to other EU funding programmes. Synergies will be developed in particular with the InvestEU Fund, notably its sustainable infrastructure window, Horizon Europe, the European Regional Development Fund, the European Social Fund+, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund. To maximise results, the "Seal of Excellence" scheme will be expanded to allow projects successfully evaluated under the LIFE Programme to be funded at regional level under the European Structural and Investment Funds. LIFE is designed to support demonstrating techniques and best practice that can be replicated and upscaled in larger programmes. LIFE Strategic Integrated Projects mobilise other European, national, regional and private funds for the implementation of key environmental and climate plans (e.g. river basin management plans, clean air plans, etc.). The integration of clean energy transition support actions will strengthen the overall programme coherence and synergies in the implementation of the EU environmental, climate and clean energy policies supported by the projects. [6]

## 5. CONCLUSION

Over half of EU funding is currently going through the 5 European structural and investment funds (ESIF). They are jointly managed by the European Commission and the EU countries. The purpose of all these funds is to invest in job creation and a sustainable and healthy European economy and environment. In the upcoming period 2021 - 2027, Cohesion Policy will keep on investing in all regions in the EU which will still be based on 3 categories (less-developed; transition; more-developed). In addition to allocating GDP per capita, new criteria are being introduced, such as youth unemployment, low levels of education, climate change and the acceptance and integration of migrants.

A total budget of EUR 1 279 billion is secured for the upcoming period 2021 – 2027 and it's divided into seven categories: The single market, innovation and digital issues; Cohesion and values; Natural resource and environment; Migration and border management; Security and defense; The EU's neighborhood and the world; European Public Administration. Investments are made on the principle of project application and the duration of the project approval process is specific to the individual programs, i.e. priorities and / or measure. Bodies implementing EU programs (the so-called intermediary bodies) at the level of each competition define procedures and rules that determine the duration of the competition, the evaluation and the duration of the project implementation. The implementation of the project is related to the so-called "n+2 rule", where the n year represents the contracting year and the two years are for implementation, which means that each project must be completed for a maximum of three years. This rule also applies to Operational Programs, which means that funds allocated for a given year must be spent in the next two years or returned to the EU budget. For Croatia, it is important to adopt strategic plans as soon as possible in order to start withdrawing funds from the European Union faster and easier. An extenuating circumstance is the administrative facilitation of the implementation and application of projects that is to be undertaken in the new period. Thus far, it is the numerous and incomprehensible administration that has stopped many applicants from using more funds from the Funds. In the new EU financial perspective 2021-2027., the emphasis is on innovation and companies will have to adapt to innovate and digitize their businesses, thus meeting some of the goals set by the European Commission.

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## ASSESSMENT OF NEUROMARKETING ATTRIBUTES IN THE CONTEXT OF SELECTED SOCIO-DEMOGRAPHIC CHARACTERISTICS

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### ABSTRACT

*Neuromarketing examines how customer decisions are affected and which part of the brain is activated in the moment of buying decision. It focuses on various attributes of sale, which it verifies with neuromarketing tools. In our research we examine some of these attributes in terms of customer opinion. The aim of the paper is to identify and specify the relationship between the assessment of neuromarketing attributes and selected socio-demographic characteristics of customers. There were selected three neuromarketing attributes, namely „store“, „seller“, and „product“. The research was focused on gender differences and context within the age of the respondents. Data were obtained by a questionnaire survey. The research sample consisted of 190 respondents, of which 58 % were women and 42 % were men. The average age of the respondents was 27.38 years. The hypotheses were tested by means of descriptive statistics and statistical analysis in the statistical program SPSS. Higher values were measured for men within the „store“ attribute. In terms of age, there were found a statistically significant differences within the „product“ attribute. With increasing age of the respondents, their sensitivity to the product, especially to the price, increased. No statistically significant differences in terms of age or gender were confirmed within the „seller“ attribute.*

**Keywords:** *Attributes of sale, Neuromarketing, Socio-demographic characteristics*

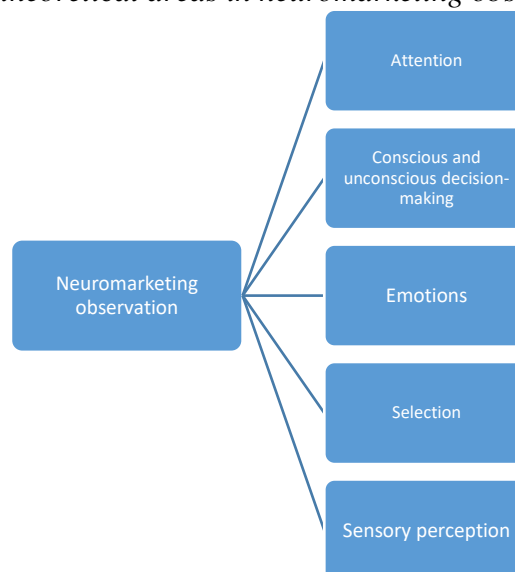
### 1. NEUROMARKETING

Neuromarketing originated in the United States and from there slowly spread to other parts of the world. The term neuromarketing was first used by Professor Ale Smidts in 2002. Smidts first spoke about neuromarketing and brain activity, which can be used to better understand consumer behavior and improve marketing strategy. The first institution dedicated to neuromarketing was called the Brighthouse Institute for Thought Science and was founded in 2002. The institution was affiliated with Emory University, one of the most famous American universities in Atlanta. The term neuromarketing became very popular in 2003 when it was revealed to the public through Forbes magazine. The entire issue of this magazine was devoted to neuromarketing, by Mellanie Wells (Sutherland 2007). Neuromarketing is a new research method based on neuroscience. He researches the nervous system and the application of neuroscience in the field of marketing.



The goal of neuromarketing is to find out how consumer decision-making is affected and what part of the brain is activated at the moment of decision-making. For example, it uses the following medical technologies: magnetic resonance imaging (fMRI), electroencephalography (EEG), etc. (Kozel 2006). Neuromarketing studies which emotions are important to people during the decision-making process and uses these findings to make marketing more effective. The findings apply to product design, improving promotion and advertising, pricing, store design, and improving the consumer experience as a whole (Sousa 2018). With the help of various devices, scientists have the opportunity to find out what is going on in people's heads. Brainwave recorders have been available for decades. New research technology can determine more precisely which areas of the brain are currently active. A polygraph (lie detector) is considered to be one of the first attempts to capture ideas. The respondent is connected to a detector that measures his unconscious physiological responses, such as sweating rate, blood pressure, heart rate and respiratory rate, depending on the questions asked. The polygraph is based on the assumption that a conscious lie will cause a stressful situation, which will be reflected in a measurable change in the observed data (Sutherland 2007). Marketers are interested in neuroscience mainly because consumers are unable to describe their preferences perfectly, and because the part that greatly influences shopping behavior is unconscious (Ariely 2010). According to Damasio (2000), this whole process is made up of an incoming stimulus, an emotional component and a rational consideration. We can divide it into initial determination of attention, monitoring of conscious and unconscious brain activity, evaluation of the current situation on the basis of emotions, and selection of the offered options on the basis of rational consideration. Here are some of the options offered within the areas of neuromarketing observation (Figure 1).

*Figure 1: Main theoretical areas in neuromarketing observation*



*Source: Own Processing*

## 2. NEUROMARKETING ATTRIBUTES

During the process of perception, stimuli from the external environment are transformed into sensations. We begin to perceive the moment we notice a given stimulus, ie we are exposed to it. However, person is not able to perceive all the stimuli of the surrounding world, because they lie below the threshold of sensitivity and are very weak for us to perceive. We process suggestions according to our values, importance, interests, experiences, needs, cultural and social environment. Perception is a selective process that affects our attention. Attention allows us to focus on one particular object, which we prefer over other objects.

The process of processing complaints is conditioned by how much attention we pay to the given complaint (Vysekalová 2011). Person receives eleven million units of information per second, but is only able to process fifty of them. Today, the market is full of various stimuli, and this leads to information passing through a kind of "sieve" before entering our consciousness. The aim of marketing research is to find out on what principle this imaginary "sieve" works in human attention (Plassmann 2007). Experts are inclined to believe that even more complex processes are based on unconscious decision-making. Neuromarketing research claims that, in addition to evaluation processes, processes involving the setting of goals of human behavior, which play an important role in the decision-making process, takes place at an unconscious level. Unconscious goal setting is activated by the environment and influences a person's actions towards satisfying his needs (Damasio 2000). According to Dutta (2018), decision-making is a function of unconscious processes that occur completely outside the consciousness of the consumer. The automatic processes that arise during the decision-making process involve stereotyping, mimicking the features of past behavior, and pursuing goals in the unconsciousness. These processes have a hidden influence on the attitude and goals of the consumer, thus creating the primacy of unconscious thought processes. With this development, the form of decision-making has changed. Human decision-making was no longer perceived only as a conscious process. The tasks played by unconscious thought processes cannot be underestimated. Conscious and unconscious thought processes were not always synchronized. They were significantly different. While unconscious thought processes were of an original nature (need for security), conscious thought processes were secondary in nature. They included caring for others and finding meaning in life. Emotion is a condition that consists of several components. The result of the condition is readiness for a certain behavior. Emotions affect us every day. They are also used in marketing, where we look at a person as the "emotional personality" of the customer, and the effect of marketing tools on a person. During the decision-making process, emotions have a direct role in unconscious and conscious decision-making. Emotions are the main motivation for human behavior (Vysekalová 2014). Emotions also play an important role in unconscious decision-making. This is evidenced by research in which groups of people with different phobias (fear of spiders, snakes) were presented with pictures of these animals for a very short time. Participants did not register them consciously, but their physiological responses to these stimuli. This confirmed the theory of the influence of emotions and unconscious stimuli on other processes in the body (Page 2012). A large online selection, not just of products, places a burden on our decision-making skills. If the selection is too large, we tend to avoid the selection completely. However, this is a challenging situation, but it gives website designers the opportunity to develop decision support tools that make it easier for consumers to make complex choices and regain control. This is an area where neuromarketing and web designers can join forces to provide real value to online shoppers as well as online retailers, merchants and advertisers (Genco 2013; Birknerová, Koval'ová 2016). People use different brain systems to make different kinds of decisions. Many decisions are made automatically, knowingly or subconsciously. Consumer decisions are also significantly influenced by situational factors such as the way the product is presented in the store or what other products are placed next to it (Giordani 2017). The senses are a very important part of our decision-making process. The body perceives through the senses the surrounding information that enters our brain as electrical impulses. The brain converts these impulses into a chemical response that also affects our decisions. Sensory perception also has a positive impact on remembering the product. The more sensory perceptions the product is attracted to and the more pronounced the sensations are, the greater the chance that the consumer will remember the product (Plassmann 2007).

### 3. METHODS

The aim of the research was to identify and specify the relationships between the assessment of neuromarketing factors and selected socio-demographic characteristics of customers. Gender differences and connections within the age of the respondents were characterized. Two hypotheses were established:

- Hypothesis 1: We assume that there are statistically significant differences in selected attributes of neuromarketing between men and women;
- Hypothesis 2: We assume that there are statistically significant correlations in selected attributes of neuromarketing in terms of age.

Data were collected by the questionnaire method, while the questionnaire was created according to the methodology "Neuromarketing - information about neuromarketing awareness, information about the store, information about the seller, information about the product". Within the methodology, we investigated how selected attributes of neuromarketing affect individual socio-demographic indicators. The methodology contains 30 statements, which were assessed on a 5-point Likert scale with a scale from 1 (certainly yes) to 5 (certainly not). Attributes that the methodology contained:

- 1) Store - an establishment in which some goods are sold or bought - a sale or purchase is concluded there. There, the customer views the submitted available goods, services with the potential intention to buy the best and most advantageous goods, service. The final decision of the customer whether to buy the goods or services may change in the store, so it is important that the customer feels comfortable there;
- 2) Seller - a natural person who sells products or provides services to customers. Its main task is to serve the customer with the intention of selling goods and services. From the point of view of neuromarketing, the behavior and approach of the seller greatly influences the customer's decision-making during shopping;
- 3) Product - a good or service that serves to satisfy needs and desires. Customers can build a strong emotional attachment to certain products, including through the neuromarketing links of their favorite brands.

The established hypotheses were verified through descriptive statistics and statistical analysis in the SPSS statistical program. The research sample consisted of 190 respondents. Of the total number of respondents, 110 (58%) were women and 80 (42%) were men. The average age of the respondents was 27.38 years (the standard deviation was 9.156 years). The range of years was from 15 to 56 years.

### 4. RESULTS AND INTERPRETATIONS

- Hypothesis 1: We assume that there are statistically significant differences in selected neuromarketing attributes between men and women.

*Table 1: Gender differences of selected neuromarketing attributes*

	Gender	Mean	St. Deviation	t	Sig (2-tailed)
Store	Man	2,29	0,565	2,088	,038
	Woman	2,14	0,463		
Seller	Man	2,36	0,755	-,696	,488
	Woman	2,43	0,578		
Product	Man	2,94	0,835	,517	,606
	Woman	2,88	0,687		

*Source: Own processing*

A t-test was used to compare differences in selected neuromarketing attributes between men and women (Table 1). Within the gender differences, statistical significances were recorded for the store attribute. Higher average values were measured in men. The men in the sample proved to be more sensitive to the smell, pleasant music, cleanliness, lighting and interior design of the store. They cared more about the brand and design of the product packaging. They were also more sensitive to the price of the product. For the other attributes, statistical significance in the context of gender distribution was not recorded.

- Hypothesis 2: We assume that there are statistically significant differences in selected age-related neuromarketing attributes.

Using Pearson's correlation coefficient (Table 2), a statistically significant relationship was recorded between age and selected neuromarketing attributes.

*Table 2: Relationships between age and selected neuromarketing attributes*

		Store	Seller	Product
Age	r	-,106	-,111	<b>,186*</b>
	p	,147	,127	,010

*\* Correlation significant at significance level 0.05.*

*(Source: Own processing)*

In examining age differences, statistical significance was recorded for the product attribute. The above correlation indicates the fact that the older the respondents, the more they watch the product (they are more sensitive to what is happening around the product). With increasing age, respondents pay more attention to the stock prices of products, more often they are tempted to buy discounted products, they are attracted by competitions associated with the purchase of a product or a gift that they receive for free. For the other attributes, no statistical significance was recorded in terms of age differences.

## 5. CONCLUSION AND DISCUSSION

In our paper, we examined the existence of statistically significant gender and age differences in selected attributes of neuromarketing. In terms of gender, higher values were measured for men within the store attribute. We found that men are more sensitive to the smell, pleasant music, cleanliness, lighting and colorful design of the store interior. They care more about the brand and design of the product packaging. They are also more sensitive to the price of the product. Based on the results of the research, we can say that we agree with the findings of Puccinelli (2013), who emphasized the significant effects of colors on men associated with shopping. For men, red is associated with savings and has a positive effect on them during shopping. Also, when prices were highlighted with this color, they increased their feeling of saving, unlike other colors, while women were skeptical. For women, black was associated with saving. Another part of his research was price information, where women showed a better memory for price information and deeper processing of information than men. Our results are also confirmed by the findings of Beverland (2006), who in his research emphasized the influence of music on the customer during shopping. The choice of the appropriate music and its appropriate volume led to the strengthening of the brand, the pleasure of customers and the attraction of new customers. While quiet music evoked the unwanted feeling that they had to communicate with sellers, louder music already influenced the overall impression.

Therefore, improperly chosen music can reduce the time spent in the store, even leaving and subsequently avoiding. In terms of age, we found a statistically significant difference in product attributes. The above correlation indicates the fact that the older the respondents, the more they watch the product (they are more sensitive to what is happening around the product). With increasing age, respondents pay more attention to stock prices of products, more often they are tempted to buy discounted products, they are also attracted by competitions associated with the purchase of a product or a gift that they receive for free. Sorce (2005) examined the effect of age on the purchase of products. She found that young consumers shop more often than old ones. In this research, younger consumers were more likely to search for products online than older ones. In terms of age, the motivation to buy a product also differs. Older consumers focus on years-proven products and brands. Therefore, it is necessary to use means that ensure a close relationship between the customer and the product and at the same time create trust in the product or service. The customer thus develops a habit of regular consumption. One of the main goals on which neuromarketing builds its strategy is to understand the evaluation processes when choosing products for individual consumers. Based on this, marketing researchers try to define the wishes, desires and needs of customers as accurately as possible so that their designed products satisfy them as best as possible. As consumers often do not even know what product they are looking for and what its functions should be, and companies have trouble finding the right way to communicate to reach their target audience, leveraging neuromarketing knowledge could help.

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# CUSTOMER PROFILES IN THE ANTIQUES AND COLLECTIBLES INDUSTRY IN CROATIA USING GAUSSIAN MIXTURE MODEL CLUSTERING: AN EMPIRICAL STUDY

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## ABSTRACT

*In today's competitive and ever-changing world, understanding customers' behavior and needs and categorize customers based on multiple variables is of vital importance. Customer profiling is a critical aspect of customer segmentation that allows SME owners a better understanding of their market and audiences, so that they can better address their marketing efforts to various audiences (clusters) and maximize their effect. The goal of cluster profiling is to achieve a clear vision of who the customer in each cluster is, what the best way to meet his needs is as well as how and what to offer in order to increase sales and customer satisfaction. The main objective of this empirical research was to identify the profile types («personas») for a Croatian-based trade and dealer company from the antiques and collectibles industry, based on their demographics, socioeconomics, psychographics, product and style preferences as well as marketing channel preferences, using primary data collected through a survey of 100 existing customers (N=100) of the trade and dealer company in this industry. The study utilizes the XLSTAT software for Gaussian mixture model to cluster customers. The probability of belonging to each cluster is calculated and a classification is usually achieved by assigning each observation to the most likely cluster. The obtained results singled out three clusters (personas): the Successful old-school business owners, the Collector medical doctors and attorneys at law and the Loyal Facebook followers. Discussion and implications focus on a more detailed identification and definition of the personas and thus show SME companies how they could apply this cluster analysis techniques in their business to adjust the offer and the marketing efforts according to the customer profiles in order to better understand and thus serve their customers.*

**Keywords:** *Antiques and collectibles Industry, Customer clustering, Customer profiling, Gaussian mixture model, Republic of Croatia*

## 1. INTRODUCTION

In the past decade, information technology, digitalization and digital marketing have significantly changed the way business and marketing is done, as well as how companies approach their customers. Customer is the most important asset in any business nowadays and businesses around the globe are thriving to make their business customer centric i.e. based on the deep understanding of customer needs with the help of analytics, customization of services and products to meet the requirements of different segments of customers. (Hassan et al., 2018). Thus far, segmentation has been a popular marketing method for selecting customer groups for targeted campaigns. However, each segment can be further exploited by performing customer profiling. (Walters al., 2017). This paper elaborates upon the use of the data mining technique of clustering to segment customer profiles and to identify the customer profiles (“personas”) for a dealer and retail business operating in the industry of antiques, art and collectibles in the Republic of Croatia. The research is quite interesting and unique due to the analysis of this industry itself, since it is an industry whose position is under threat. Some of the problems it faces apply to many of the world's art and antiquity centres. These include changing economy circumstances, alterations to consumer lifestyle patterns, and the simple fact of the reduced availability of certain items (Art and antiques trade, 1998).

Antiques, art and collectibles traders and stores, as centers of material culture and storytelling, are useful sources for writing local history. (Douma, 2015). Unraveling one antiques dealer's customer profiles would give a very clear overview of the market, its customers and its needs and wants.

## **2. LITERATURE REVIEW**

### **2.1. Customer profiling**

Every customer has some attributes linked and associated to him, which include demographic data like age, gender, education, location, socioeconomic data like marital status, occupation, annual income, psychographic characteristics and transactional data associated with his transaction history i.e. buying preferences, purchase history, preferred marketing channel and preferred product type and/or style. These attributes can be used to build customer profiles that will act as descriptors of customers and will be suggestively used for customer assessment, marketing of suitable products, enhanced experience, direct marketing, up-selling to increase profitability, churn prevention, risk categorization, default prediction and considering customer's eligibility for different products or services. (Hassan et al., 2018). Customer profiling means classification of customers as per their factual and transactional attributes. It is an important tooling CRM and data mining techniques can be used to increase accuracy of customer profiling methods as the customer data is very sparse and complex. (Hassan et al., 2018). Customer Relationship Management (CRM) has always played a crucial role as a market strategy for providing organizations with the quintessential business intelligence for building, managing and developing valuable long-term customer relationships. (Tripathi et al., 2018). With customer profiling, businesses are defining a very clear and vivid definitions and "personas" of their customers, which leads to greater and deeper understanding of their customers, which is a prerequisite for building strong and long-term loyal relationship with the customer.

### **2.2. The industry of antiques, art and collectibles**

The subject of antique art and antiquities trade has been understudied. The author has found it challenging to find any research papers regarding this industry. Furthermore, the antiques market is a relatively closed world in which market knowledge and business practices are rarely shared between market actors, and even less is revealed to outsiders (Makovicky, 2017). Although the art market is large, the distribution channels are varied and make for a fragmented, nonintegrated marketplace, very unlike the public securities market. Information flow, though improving, is still limited (Horvitz, 2009). The supply side of the market is represented by the owners of antiques (collectors and holders of single items), owners of antiques shops and galleries, consultants, auctioneers, art experts, individual freelance dealers, art historians, museum experts, and restorers. They all have different resources or skills that are traded in the market: objects as such, information about the sources of supply, art historical and technical expertise, or restoration skills. The demand side is represented by individual consumers (collectors and sporadic buyers), owners of antiques shops and galleries, consultants, auctioneers, individual freelance dealers, museum experts, and restorers (Bogdanova, 2011). This paper gives an exclusive insight into customer profiles of the antiques & arts market in Croatia.

### **2.3. Data mining techniques & clustering**

The retail industry is a major application area for data mining and clustering. Clustering is a common tool used for grouping customers with similarities. It could be defined as a technique that groups entities with similar characteristics into segments, and each segment is a group of homogeneous customers that marketers can identify, target, and communicate to.



The process of grouping a set of objects into classes of similar objects is called clustering. In data mining, clustering techniques look to segment the entire data set into relatively homogeneous groups or clusters. The data objects are clustered or grouped based on the principle of maximising the intra-class similarity and minimising the inter-class similarity i.e. clusters are formed so that objects within a cluster have high similarity with respect to one another, but are very dissimilar to objects in other clusters (Prasad et al., 2011). The method of clustering is a way to divide data into groups which have a high similarity to other members of the cluster, and low similarity to members in other clusters (Ahmed et al., 2019). With the clustering technique, the "Like attracts like" principle is respected. Each group is called a cluster, each class of objects are similar to each other as much as possible, and different classes of objects as different as possible (Xi et al., 2017). The key goal in data mining and algorithm research is to enable robust and automated data mining, thereby making it easier for non-experts to conduct and run data mining applications. (Apte, 2002).

### 3. DATA AND METHODOLOGY

The main research goal was to detect which characteristics a selected group of customers in the antiques and collectibles industry in the Republic of Croatia have, and then to identify what marketing strategies and which products should a company operating in the industry should offer them in order to make them their loyal clients in the long run. The model used in this research is the Gaussian mixture model (GMM). Mixture modeling were first mentioned by Pearson in 1894 but their development is mainly due to the EM algorithm (Expectation Maximization) of Dempster et al. in 1978. (XLSTAT, 2020). GMM is a commonly used model for a clustering purpose. It can provide a framework for assessing the partitions of the data by considering that each component represents a cluster. This model has two main advantages:

- It is a probabilistic method for obtaining a fuzzy classification of the observations. The probability of belonging to each cluster is calculated and a classification is usually achieved by assigning each observation to the most likely cluster. These probabilities can also be used to interpret suspected classifications;
- Mixture modeling is very flexible.

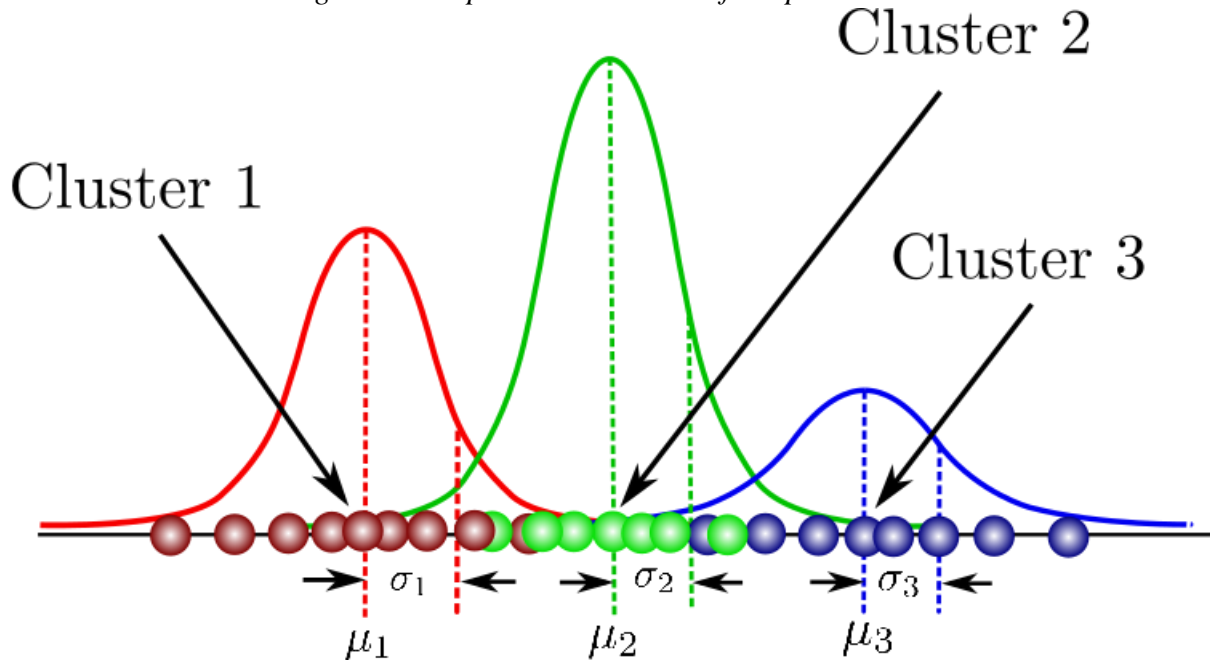
A Gaussian Mixture is a function that is comprised of several Gaussians, each identified by  $k \in \{1, \dots, K\}$ , where  $K$  is the number of clusters of the dataset. Each Gaussian  $k$  in the mixture is comprised of the following parameters:

- A mean  $\mu$  that defines its centre;
- A covariance  $\Sigma$  that defines its width. This would be equivalent to the dimensions of an ellipsoid in a multivariate scenario;
- A mixing probability  $\pi$  that defines how big or small the Gaussian function will be. (Carasco, 2019).

This parameters are graphically illustrated in Figure 1.

*Figure following on the next page*

Figure 1: Graphical illustration of the parameters



Source: <https://towardsdatascience.com/gaussian-mixture-models-explained-6986aaf5a95>

The mathematical form of the Gaussian distribution in the multivariate (multi-dimensional) case is as follows:

$$N(x|\mu,\Sigma)=\frac{1}{(2\pi)^{D/2}|\Sigma|^{1/2}}\exp\left(-\frac{1}{2}(x-\mu)^T\Sigma^{-1}(x-\mu)\right)$$

Where:

- $x$  represents the data points;
- $D$  is the number of dimensions of each data point;
- $\mu$  and  $\Sigma$  are the mean and covariance, respectively. (Carasco, 2019).

### 3.1. Flowchart for proposed work

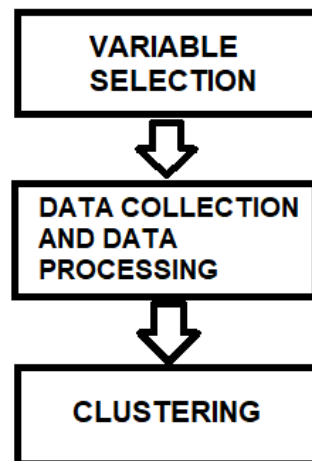
As shown in figure 2, the procedural steps for predicting the customer profiling are:

- 1) Variable selection;
- 2) Data collection and data processing;
- 3) Clustering or customer profiling.

In the first step, the author has had a few interviews with the owner of Katema, sole proprietorship for trade, marketing and services (an antique, art, stylish furniture and collectibles trade company operating in Croatia since 2017), in order to derive what the most important variables for such a research could be. The variable selected are demographics (gender, age and occupation level), socioeconomics (occupation, yearly salary and marital status), psychographics (hobbies and interests), product and style preferences (preferred style and/or product) and marketing channel preferences (i.e. preferred marketing platform: direct call / sms, newsletter and blog posts or Facebook posts). The author has left out the location from the demographic characteristics due to the fact that 100% of the customers are local based since it is a local based Croatian company. In the second step, the data has been collected through a questionnaire that has been designed to be short and not too intrusive, in order for a greater number of feedbacks and returned surveys. The dataset for the Gaussian mixture model has been collected through an online and offline (i.e. in-person) questionnaire in the period from

April 2020 to June 2020. The questionnaire has been created in cooperation with the owner of Katema, sole proprietorship for trade, marketing and services (the antiques and collectibles trader and dealer). The initial sample has been 135 customers, but only 104 responded, of which 100 questionnaires were eligible. The data has been then processed using the GMM technique, which takes us to the third step of clustering. The GMM has identified three clusters or customer profiles for the case company Katema. The third step in customer profiling and clustering has been made with the use of the Gaussian mixture model. The results of the model are shown in Section 4.

*Figure 2: Steps in customer profiling and clustering*



*Source: Author's workflow*

### 3.2. The purpose of the research

The main objective of this empirical research was to identify and define the crucial characteristics of the customer profiles of a Croatian-based company operating in the industry of antiques, art and collectibles. The purpose of this research was to detect and present the customer profiles in the industry, and thus, enable SME owners and marketing managers to understand the importance of customer profiling in marketing strategies, product development and communication with the customers. GMM (Gaussian model mixture) technique used in this research is easy to use and implement, and it could lead to better understanding of the market and the customer profiles. Notwithstanding, the model could be additionally popularized due to the benefits it offers for SME owners and marketers.

## 4. RESULTS: THE THREE PERSONAS

A customer profile is an overall look at a company's target market, while a customer persona is one specific, ideal customer, usually fictitious – a visualization of the perfect customer. A customer profile is 'them' as a group, while a customer persona is 'he' or 'she' as a person. The customer persona, is useful for creating a specific marketing campaign or piece of marketing content – marketers could imagine they're creating the content specifically for this person, which makes it much more powerful (A Customer Profile Template For Small Business, 2020). The used Gaussian mixture model clustering has distinguished 3 clusters from the sample (N=100), each very specific and different from the other. Most of the case company's customers fall into the first cluster or "persona", the so-called Successful old-school business owner. This persona represents 43% of the company's customers, is male in most of the cases (65.11%) and mostly older (55.8% aged 60-69; 41.86% aged 70 – 99, i.e. 97.66% aged 60 and up). Most of them have university degree and other higher education levels. Interesting characteristic is that this cluster consists of business owners and university professors who earn from 20.000-50.000

EUR annually. Half of the cluster consists of single and the half out of married customers (this is not a representative characteristic of the cluster). Their hobbies are active sports and collecting antiques, and the most specific characteristic of this cluster is their preferred marketing platform and channel is direct call / SMS. The customers in this cluster prefer old venetian style and Louis XV style furniture. The second cluster consists of 32% of the company's customers, which are the Collector medical doctors and attorneys at law. This persona could be either male or female, aged 60-69, with a university degree, most of them medical doctors and attorneys, earning significantly lower than the first persona (31.25 % of them earn 7.500- 9.000 EUR annually while 28.125% of them earn 20.000-50.000 EUR). This persona is married, enjoys collecting antiques, yoga and reading. The preferred marketing channels are newsletter and blog posts, while their preferred product style is the bubble style. The third persona, the so-called Loyal Facebook followers have got their name based on the most preferred marketing channel: Facebook. They make 25% of the sample and are mostly female (52%) and interestingly, younger than the first two clusters (surprisingly, even 98% of them are aged 18-49, and 68% of the cluster is aged 40-49). This persona has lower qualifications than the other two clusters (high school and maximum of university degree), usually works for others in a corporation, state or privately owned companies, or working as interior designers and earn significantly lower than the other personas (7.500-9.000 EUR annually). She is mostly single or divorced (64%) and interested in travelling, photography and art. She is interested in old venetian style and vintage collectibles. A more detailed classification can be found in table 1.

*Table 1: The three personas in the antiques and collectibles industry in the Republic of Croatia*

THE THREE "PERSONAS"			
Questionnaire	1. the Successful old-school business owner	2. the Collector medical doctors and attorneys at law	3. the Loyal Facebook followers
	43%	32%	25%
GENDER	Mostly male (65.11%)	Male and female (50-50%)	Mostly female (52%)
AGE	Older audience: 55.8% aged 60-69; 41.86% aged 70 - 99	60-69	Younger audience (18-49): 68 %: 40-49
EDUCATION LEVEL	Mostly university degree	University degree	High school diploma & university degree
OCCUPATION	Business owners & university professors	Medical doctors & attorneys at law	Employed in a corporation & interior designers
YEARLY SALARY	High yearly salary (32.55% from 20K-50K EUR)	31.25 %: 7.500- 9.000 EUR; 28.125%: 20.000-50.000 EUR	Lower salaries: 7.500-9.000 EUR
MARITAL STATUS	46.5% single; 46,5% married	married	Mostly single or divorced (64%)
HOBBIES AND INTERESTS	Collecting antiques and active sports	Collecting antiques & yoga and reading	Travel, photography and art
PREFERRED MARKETING PLATFORM	Direct call / SMS	Newsletter and blog	Facebook
PREFERRED STYLE AND/OR PRODUCT	Old venetian style and Louis XV furniture	The bubble style, commode and cabinets	Old venetian style and vintage collectibles

*Source: Authors' calculations*

The results show the characteristics and preferences of each persona and the companies operating in the industry of antiques and art in Croatia (but also in Europe and the rest of the world) could apply this cluster analysis technique in their business to adjust the offer and the marketing efforts according to the customer profiles. Such a research is very useful in any business and any industry since it focuses on a better understanding and serving their customers, which ultimately leads to greater customer satisfaction and greater profits.

#### **4.1. Discussion, Limitations and Future Research**

This research was limited to only one company operating in the antiques and collectibles industry in the Republic of Croatia and the sample was relatively small (N=100). It would be interesting to conduct a comparative analysis of the profile of customers from other Croatian antique dealers operating in other parts of Croatia, other European and world countries. Furthermore, the future research in this area should reveal the difference between online and offline customers in this industry. As far as the Gaussian mixture model concerns, one drawback of GMM is that there are lots of parameters to learn, therefore may require lots of data and iterations to get good results. There could also be problems for datasets with large number of dimensions (e.g. text data), because with the number of parameters growing roughly as the square of the dimension, it may quickly become impossible to find a sufficient amount of data to make good inferences. So it is common to impose restrictions and assumption to simplify the problem (Gaussian Mixture Model, 2019). However, this paper is a solid ground for future research in this area. Furthermore, this is among the very few papers and researches regarding the industry of antiques, art and collectibles.

#### **5. CONCLUSION**

Nowadays, if a company wants to succeed in the long run, compete with the competition in its industry and build a solid base of loyal customers, it is important to know as much as possible about its customers and to know their wants and needs. Customer profiling is performed after customer segmentation. It provides a basis for marketers to 'communicate' with existing customers in order to offer them better services and retaining them. This is done by assembling collected information on the customer such as demographic and personal data. (Jansen, 2007). It is the process of recognizing and precise defining of company's personas, which enables marketers to address each persona (customer profile) with a different marketing approach, from a different (preferred) marketing channel or a platform and offer them a product they would love. This way, customer satisfaction goes up, together with the sales, profit and the retention of the existing customers. In this paper, the Gaussian mixture model for clustering has been implemented. Retail data mining can help identify customer buying patterns and behaviours, improve customer service for better customer satisfaction and hence retention. (Prasad et al., 2011). This research paper has given an overview of the Croatian market and industry of antique dealers and it represents very vividly the customer profiles in this industry. The results have shown the three types of customer profiles (the so-called personas): the Successful old-school business owners, the Collector medical doctors and attorneys at law and the Loyal Facebook followers, each of them with very specific (and different from other cluster's) characteristics. The data mining techniques are very easily applicable in other industries and business as well and this paper is promoting their effectiveness in identifying customer profiles in a retail business in the Republic of Croatia. In summary, the use of clustering algorithms can help companies identify the customer profiles and clusters of existing and potential customers, making it possible to address marketing strategies and activities to each cluster differently and appropriately, thus maximizing their marketing efforts and their customers satisfaction.

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## INTERCONNECTION OF STAKEHOLDER THEORY WITH THE CONCEPT OF CORPORATE SOCIAL RESPONSIBILITY (CSR)

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### ABSTRACT

*This paper provides an overview of the stakeholder theory as a part of the business orientation that every business should aspire to. Stakeholders are a group of people who are interested in the business operations of a particular company and whose interests are affected by the realization or completion of the operations. The goal of every organisation, regardless of its core business, is to make a profit, however, in order to achieve this, it is necessary to satisfy all the interested parties that affect the business operations or are affected by it. Stakeholder theory is about creating value and how to manage your business effectively. If the stakeholder theory is to solve the problem of value creation, it must show how the business can actually be described through the stakeholders relations. Organization management has evolved from a purely profit-oriented model to a model that focuses responsibility at all levels of management towards all stakeholders. The concept of the stakeholder theory has come into use to extend the notion of management responsibility, which is traditionally related to stakeholders.*

**Keywords:** *Stakeholders, Stakeholder analysis, Stakeholder theory, Corporate social responsibility*

### 1. INTRODUCTION

Organisations do not exist on their own, but in the way they conduct their activities affect both the society and the environment. The impact of each organisation on its environment is externalized through a product or service and through constant interaction with stakeholders, i.e. investors, employees, suppliers, consumers, management, government and many other influential interest groups. The quality of impact representation alone will depend solely on corporate responsibility and how it manages these impacts, so it is crucial to increase the value of the organisation itself in all segments. Speaking of the stakeholder approach, we are actually talking about the framework of corporate governance theory. Corporate governance is about defining the most important goals, determining how to achieve them, and how to achieve the effectiveness itself. This approach is intended to explain the functioning of the organisation itself. Balancing corporate goals and meeting the demands of major shareholders and stakeholders results in successful corporate governance. The stakeholder approach aims to achieve the general principles of equality, unity and solidarity (Freeman, Dmytriiev, 2017). The stakeholder theory aims to achieve inclusion, stakeholder means being recognised as a person who has an interest in decisions and actions of individual organisations, i.e. stakeholders have the right to request consultation, participation and information rights in decision making. This paper will outline the conceptual definition of stakeholders, the division of stakeholders, and a brief analysis of the stakeholders that make up one of the most important parts of an



organization. It is necessary to define who the stakeholders are and how they affect the business operations of an organisation. After defining and briefly analysing the stakeholders, the paper places emphasis on the stakeholder theory and corporate social responsibility, and accordingly, the stakeholder approach should be explained as a separate concept, and then the relationship between the stakeholder theory and corporate social responsibility should be presented.

## 2. CONCEPTUAL DETERMINATION OF STAKEHOLDERS

Considering the present day, which is full of numerous changes that affect the business operations of the organisation, it is extremely important when making certain decisions to take into account all aspects that can in any way affect those decisions, and ultimately the business itself. Certainly, one of these aspects that needs to be addressed is the stakeholders who, although acting directly, have a major impact on business operations. The goal of every organisation, regardless of its core business, is to make profit, however, in order to achieve this at all, it is necessary to satisfy all the stakeholders that affect business or are affected by it. The term stakeholder itself refers to a group of people who are interested in the business of a particular organisation and whose interests are affected by the realisation or completion of the business (Poslovni dnevnik, <http://www.poslovni.hr/leksikon/javni-interest-1329>). When it comes to the stakeholder interest in the business operations of a company, this is usually the financial aspect. When talking about this topic, it is certainly important to point out that in the past so much attention was not paid to the stakeholders themselves, and this is supported by the fact that many people were not familiar with the concept of a stakeholder. It is also important to emphasise that over time people have realised the importance of stakeholders, and as a result, many definitions emerge that look at the importance and development of stakeholders and their impact on business operations.

*Table 1: Definitions of stakeholders throughout history*

Stanford memo (1963)	It cites stakeholders as a group of people who have a major influence on the business operations of the organisation and without whose support the organisation would be difficult to survive.
Narrow (1983)	A group of people who, because of their characteristics, force the organisation continue its business based on them.
Freeman i Gilbert (1987:397)	People who already affect by their existence or in the near future can affect the organization's objectives
Cornell i Shapiro (1987:5)	They see the stakeholders in one specific way and describe them as prosecutors who have contacts with many people.
Evan i Freeman (1988:75-76)	Stakeholders are individuals that have a stake in a particular organisation or a claim on it.
Evan i Freeman (1988:79)	A stakeholder is anyone who benefits from the organisation or has their rights damaged by the organisation's operations.
Alkhafaji (1989:36)	A group of people to whom the organisation is responsible.
Evan i Freeman (1990)	They see stakeholders as contract holders.
Thompson et al.	Stakeholders are people who are involved with the organisation.
Savage et al. (1991:61)	Stakeholders have interests in the operations of the organisation and the ability to influence them.
Hill i Jones (1992:133)	Stakeholders are seen as a group of people formed to supply critical resources of the organisation and in return they seek to fulfill their interests
Brenner (1993:205)	Stakeholders are all those who have a legitimate relationship with the organisation within which the exchange of transactions takes place, a moral responsibility.

*Source: Boucher-Bonnaïfous, M., Rendtorff, D. J. (2016). Stakeholder theory, A model for strategic management. Springer international Publishing. Switzerland*

## **2.1. The classification of stakeholders**

If their impact on the organisation's operations is given priority the stakeholders are divided into primary and secondary. The first group includes all those legal or natural persons who, by their actions, are crucial for the existence and therefore all the activities carried out by the organisation. The main characteristic of this stakeholder group represented by the owners, employees and managers is that they are the drivers of the whole organisation and financial stability depends on them. Also within this group may appear the government and the local community, which through their laws and incentives have a direct impact on the infrastructure and therefore the business operations of the organisation. On the other hand, it is extremely important to mention all those stakeholders who, since their interests are primarily indirect, do not have a major impact on the business of the organisation, and do not affect its survival. It is also important to point out that although secondary stakeholders have an interest in the business operations of the organisation, they are not directly affected in the case of its poor performance. This group consists of customers, suppliers, creditors and society as a whole (Sisek, Strahonja, 2012). Stakeholders can also be categorised in a different way and are therefore divided into internal and external (Vitezić, 2008). The main criterion to be used is the position of the stakeholders themselves in relation to the observed organization. Internal ones, that is, all those subjects within the organisation and thus having direct contact with the current situation, include owners, employees, business partners and all those business entities that are market oriented. In contrast, external stakeholders include all those entities that are non-market oriented, primarily government, local community, non-governmental organisations (Čičak, 2018).

## **2.2. Stakeholder analysis**

In order to have an impact on the stakeholders at all, and ultimately on the business operations, it is extremely important to carry out a stakeholder analysis so that certain data that will facilitate the overall process can be obtained. Although the stakeholder analysis process itself is demanding and requires many resources, the results obtained directly affect the organisation's operations. As already known, numerous changes in the market lead to variations in the business operations of the organisation, so with the increase or decrease in the volume of the business there are changes in the number of stakeholders. In order to ensure easier monitoring of changes in the business operations, and therefore in the number of stakeholders, a complete stakeholder analysis process is required to ensure stability and ultimately, the development of the organisation. If the stakeholder analysis is to maximize its impact, it is extremely important to know which stakeholders are to be influenced and what problems and opportunities will be observed. It is also very important to identify the positive and negative effects that will occur during and after the analysis. Accordingly, it can be said that the primary objective of the stakeholder analysis is to maximize economic and social benefits while minimizing the negative effects for all stakeholders. Given the complexity of the whole process, it is extremely important for the stakeholder analysis to be carried out following the specific steps that will ultimately lead to the achievement of the objective. In order to begin the stakeholder analysis process at all, it is extremely important to identify the opportunities and problems associated with a particular project. This will collect individual data on the basis of which the detailed insight into the project can be obtained. After the opportunities and problems are identified, the next step refers to the stakeholders themselves. Namely, all those groups of people who have particular interests in the project are identified. Within this step, the roles of key stakeholders are identified, which can be target groups, end users, partners or associates. The next step is identification of stakeholders, in which the main task is a more detailed approach that includes an analysis of the roles, interests and significance of the groups previously identified in the project.

Once all the stakeholders are defined, the analysis of their relationships follows. The primary objective of this part of the analysis is to gain insight into the level of collaboration among the stakeholders on which the organisation depends, or, on the other hand, to gain insight into potential conflicts among the stakeholders that have a negative impact on the organisation's operations (PJR Consulting, <https://pjr.hr/analiza-dionika/>)

### **3. THEORETICAL OVERVIEW OF THE STAKEHOLDER APPROACH**

Stakeholder theory has been developing strongly over the last 40 years and is basically the best representation of how the business should look at its best and how it will work. The stakeholder theory refers to creating a value and how to manage your business effectively. If the stakeholder theory is to solve the problem of value creation, it must show how business can actually be described through the stakeholder relations. Different theorists have tried to come up with different ideas to address the issues such as "corporate social responsibility", "corporate legitimacy", "company theory" and even the answers to questions about "building a good society". The basic idea of creating value for stakeholders is quite simple. Business can and should be understood as a set of relationships between different groups that have a share in the activities that make up the business. The essence of business is how customers, suppliers, employees, financiers (shareholders, payers, banks), communities and managers interact to create value for the organisation. In order to understand the work, it is necessary to understand how these relationships work, how they will be managed and shaped. Owners or financiers put a financial stake in the business in the form of stocks, bonds, etc. and expect some kind of financial return from them. Financiers' stakes will vary depending on the type of the owner, preferences for money, moral preferences and the type of organisations itself. Financiers "own the organisation" but are also responsible for the use of all assets. Employees possess skills for which often there is no perfectly resilient market. In turn for their work, employees expect security, pay, various benefits and meaningful and appropriate job from the organisation. Employees also consider and want to be involved in making decisions that are relevant to the organisation, and on the other hand, if those employees represent managers or senior executives, they have a great responsibility for the overall behaviour and relationships throughout the organisation. Customers and suppliers exchange resources for the organisation's products and services, and in turn receive different benefits from the products and services. Organisations make promises to their customers through various advertisements about the correctness and quality of the products and services they offer. If the product or service does not meet the requirements and is not up to the level of quality expected by the customers, the organisation and managers are obliged to work to correct this situation. If the suppliers find and provide a better, faster, and cheaper way for critical parts of a product or service, then both the supplier and the organisation themselves gain the value. Although some suppliers are exclusively price oriented, there must be an element of a fair relationship towards the others. In the end, the local community is listed as the last primary stakeholder, which gives the organisation the right to own the facility at a specific location. Organisations have a strong influence on the community and are part of it. The organisation is expected to do business based on corporate social responsibility to the local community. An organisation must not expose the local community to hazards such as various contaminants and waste, although organisations often do not have sufficient knowledge about it. Management, when possible hazards are discovered, must immediately notify the local community in order to minimize any adverse effects (Freeman et al., 2010). Every organisation and business operations must consist of financiers, customers, suppliers, employees and the community itself, which, because of their importance and the impact they carry, take the place of primary stakeholders. It is also necessary to mention secondary stakeholders who are also shown at the very beginning of this paper, i.e. in the analysis where it was necessary to identify the stakeholders themselves.

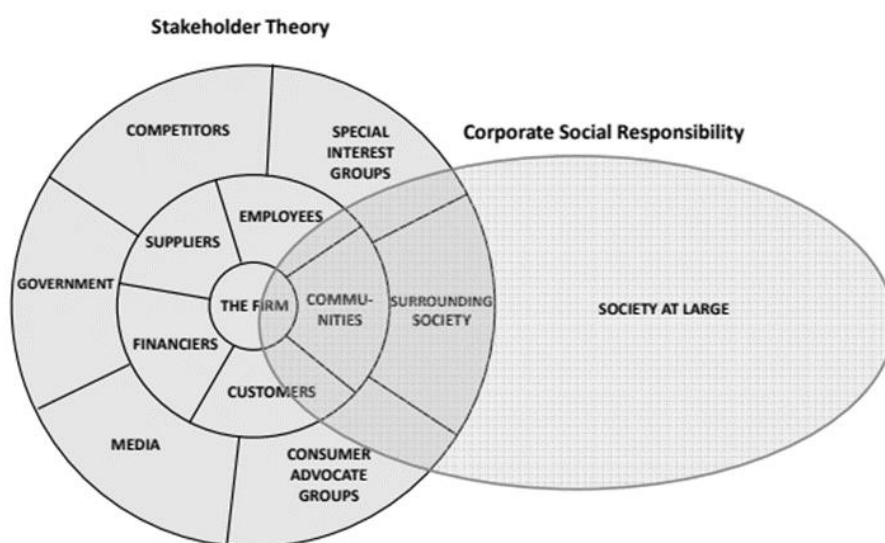
No stakeholder stands alone in the value creation process. The roles played by stakeholders are interrelated, e.g. how can a bond holder recognise any yield without the management paying attention to the roles of customers or employees? How can customers get the products and services they need without employees and suppliers? Organisations often look at the problem of stakeholder theory through the question "Which stakeholders are more important?" although defining and understanding the stakeholder theory is wrong if looked at it this way, and all stakeholders and their requirements are equally important, and the organisation should through its business find a way to realise it at least to a satisfactory extent. The stakeholder theory suggests that companies reframe their questions into "How can we invest in new products and generate higher profits?" or "How do we make sure our employees are satisfied and capable of creative work?" Freeman et. al. (2010) in their book *Stakeholder theory, The State of the Art*, state that this problem and task is easier to accomplish if the organisation determines the purpose of its business operations, i.e. there should be a common purpose between different stakeholders and the organisation itself, which will be developed and supplemented with each other during everyday activities. It is important to mention the differences between a proprietary and a stakeholder approach, an organisation is not an instrument of shareholders i.e. owners only, but of all those who supply the resources necessary for the normal functioning of the organisation. The owners have no right to impose their interests to the interests of the stakeholders. When it comes to proprietary approach, it has been adopted in the USA and UK as opposed to the stakeholder approach, the strongholds of which are Continental Europe and Asian countries.

#### **4. STAKEHOLDER THEORY IN THE CONCEPT OF CORPORATE SOCIAL RESPONSIBILITY**

When referring to business ethics as the organisational standard emerging in organisations, corporate social responsibility and stakeholder theory come as two major concepts that need to be considered. There is no sufficiently good and well-defined content linking the corporate social responsibility and the stakeholder theory. Scholars have made assumptions and conclusions about how one concept is a subset of the other as well as the arguments about the complementarity of the two concepts (Freeman, Dmytriiev, 2017). The stakeholder approach claims that the organisation's main interest is not solely to increase the wealth of its owners but also of other influential-interest groups. The stakeholder approach leads to the designation of organisations as the "centre of a network of interdependent interests", each contributing to its effectiveness. This approach is a reflexion of coordination of goals and interests. The organisation is obliged to behave equally and ethically to both external and internal interest groups. In this chapter, the focus is placed on the connection between the stakeholder theory and corporate social responsibility. Both in theory and in business practice, there are two opposing approaches to corporate social responsibility. Milton Friedman defines the first approach and promotes the idea of ethical minimalism, which states that the sole responsibility in business is to generate profit for shareholders without violating everyday moral rules (Friedman, Miles, 2002). Another approach is that of Robert Edward Freeman who defends the thesis that business responsibility is the responsibility of all stakeholders. The comprehensive version of the stakeholder theory is exactly the one discussed back in 1984 (published in 2010) by Freeman in *Strategic Management: A Stakeholder Approach*. Freeman emphasised that stakeholders and organisations should not be viewed separately, but should be strategically and morally connected, and that the stakeholder theory can be used to determine the basic vision and goals of an organisation. Freeman's interpretation and theory undoes the traditional approach that organisations have pursued as their strategy (Boucher-Bonafous, Rendtorff, 2016). The stakeholder represents one of the key concepts of the contemporary concept of corporate social responsibility.

The stakeholder theory based on Freeman has had a strong influence on the development of approaches to corporate social responsibility (Letica, 2010). The stakeholder concept did not evolve in parallel with the CSR concept. Adopting a stakeholder approach is by no means an easy and simple step as it presents a daily challenge for managers. Wood (1991) emphasises that stakeholders have developed a different view of CSR and its meaning as well as the expectations they have of the organisation that is actively using CSR. One necessary task for managers is to work on an outcome that will satisfy at least some or all of the stakeholders who have a direct impact on the company. Freeman and Dmytriiev (2017) view the stakeholder theory and corporate social responsibility as separate concepts with some overlapping. The main similarity between the two concepts is the importance of incorporating social interests into business. Organisations are always part of society. The stakeholder theory emphasises that the meaning of business lies in creating value and building relationships with all stakeholders, regardless of the fact that stakeholder composition usually varies depending on the industry, business model and business activities of the organisation. Different stakeholders do not have to be viewed through ranking of their importance, but finding ways to focus their interests in the same direction. From the stakeholder theory perspective, every organisation has a responsibility to act in the interest of all stakeholders. When it comes to corporate social responsibility, the concept is focused on the activities of the organisation towards the society as a whole, i.e. CSR focuses on one stream of business responsibilities towards local communities and society as a whole. Generally, when talking about how an organisation should act, we are talking about organisational responsibility, which refers to the responsibility of the organisation equally to everyone, i.e. everyone is equally important. There are two approaches (models) developed in the stakeholder theory. The first, instrumental approach emphasises that a major decision-making motive in a corporation is market success and the corporation wants to use all the factors available in its environment to achieve better financial results. The second, normative approach is about the moral obligations towards its stakeholders, which the corporation must respect in a proper way, regardless of the instrumental value of the stakeholders for the corporation. The authors have come to the general conclusion that good and quality relationships with stakeholders directly affect the financial performance of the organisation (Kakabadse, 2005).

*Figure 1: Relationship of the stakeholder theory and corporate social responsibility*



*Source: Freeman, E. R. i Dmytriiev, S. (2017). Corporate Social Responsibility and Stakeholder Theory: Learning From Each Other. Emerging Issues in Management, 2, 7- 15.*

Figure 1 provides a visual illustration of the relationship between the stakeholder theory and corporate social responsibility. Both concepts emphasise the importance of an organization's responsibility to the community and society. Emphasis is placed only on the breadth of coverage represented by the stakeholder theory as well as corporate social responsibility. The stakeholder theory focuses its attention within the boundaries of the organisation's activities, that is, it focuses on the local communities within which the organisation operates such as suppliers, employees, financiers, customers (internal circle relates to primary stakeholders) and the surrounding society or larger and wider area (external circle indicates the secondary circle of participants). Corporate social responsibility, on the other hand, tends to maximize its social orientation and action toward others, rather than being based solely on the stakeholders who have a major influence on the organisation's business operations (Freeman, Dmytriiev, 2017). Therefore, it is important to know how to explain the perspective of the stakeholder theory and the perspective of the CSR concept. Over the years, organisational management has evolved from a purely profit-oriented model to the model that focuses the responsibility at all levels of management on all stakeholders. It is important to emphasise that profit is not averse to responsibility because the social and economic aspects of an organisation are undeniably linked. Corporate social responsibility is precisely the concept of managing an organisation so that profit is generated, but both social and environmental criteria are also met, and the ultimate goal is sustainability and satisfaction of all stakeholders involved. Recent literature notes that the concept of the stakeholder theory has just come into use to extend the notion of management responsibility, traditionally related to shareholders. Given that management decisions and actions affect all stakeholder groups, top management should not only represent the interests of shareholders, but should represent the interests of all groups that contribute to the organisational ability to create wealth by contributing resources (Sisek & Strahonja, 2012).

## 5. CONCLUSION

The stakeholder theory or the stakeholder approach continues to be a relatively new concept that aims to explain the functioning of a modern organisation, which is very different from the approach undertaken by the organisations in the past. Every organisation should focus on adjusting the goals and requirements set by the stakeholders. The only measure of success cannot be profit-making alone, because in today's environment, organisations will not be able to exist solely in that way. However, in the end, it is important to see that stakeholders are the ones who bring and make a fortune to the organisation. Contemporary organisations face many challenges, including the need to align with the global goals of sustainable social development. The stakeholder approach takes the view that business operates in the society and on behalf of the society. The problem is that organisations often deviate from the stakeholder approach and advocate traditional considerations, which, among other things, represent a view that owners are the most important stakeholders. From a CSR standpoint, with an overview of all important aspects, it is necessary to build a long-term approach towards a larger range of stakeholders. Accordingly, integrating and implementing the stakeholder approach into an organisation is one of the ways that assures a constant progress and improvement of the organisation.

*„The business of business isn't just about creating profits for shareholders -it's also about improving the state of the world and driving stakeholder value.” (Marc Benioff)*

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## **"HOLIDAY HOMES WITH A STORY" - A GOOD DRIVER OF TOURISM DEVELOPMENT IN THE VARAŽDIN COUNTY**

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### **ABSTRACT**

*In relation to the development of tourist activity in the Republic of Croatia, the Varaždin County has significant indicators in the development of tourism, and in the present development has represented a particularly significant and attractive tourist area. A lot of research of tourist trends for several years now has shown that tourism in the Varaždin County has been expanding intensively in all areas where there are natural and cultural resources that allow you to get to know the untouched nature, culture of the area where tradition is nurtured, cities that have their history and architecture, enjoyment in sports and recreational activities, maintaining health and meeting many other tourism goals. The aim of this paper is to present the project "Holiday Homes with a Story" as a good driver of sustainable tourism development in the Varaždin County with an emphasis on how to maximize the satisfaction of tourists with a holiday home with a story. This project was initiated by the Varaždin County Tourist Board in cooperation with the Varaždin County and is very well received because through holiday homes, family farms and their branded products are connected and promoted. For the purpose of research for this paper, data from the Varaždin County Tourist Board was used to obtain results on the tourist traffic, increase in overnight stays, extension of season, number of accommodation capacities for the project "Holiday Homes with a Story" by methods of analysis and synthesis.*

**Keywords:** *Varaždin County, Tourism, Houses with a story, Family farms, Product*

### **1. INTRODUCTION**

The County of Varaždin is rich in valuable, ecologically preserved space and cultural and historical heritage, which is the basis for good tourism development, as one of the significant economic factors. There are special benefits for the development of cultural, sports, hunting and fishing, rural, spa and religious tourism, tourism related to traditional festivals, and in recent times, the increasingly significant cycling and eco-tourism. Considering the utilisation of the county's tourism potential, the subject of this paper is to present a positive example of good sustainable development tourism practice in the Varaždin County through the project "Holiday Homes with a Story" with an emphasis on how to maximize the satisfaction of the tourists spending their holiday in a home with a story, how to, through the project, develop the tourism supply and demand market. Today, one of the major problems in the development of tourism in the Varaždin County is the reception of an increasing number of tourists, and the biggest



reason for this is accommodation. Therefore, in cooperation with the Varaždin County Tourist Board, the Varaždin County has designed a unique project "Holiday Homes with a Story" with the aim of increasing the number of overnight stays, extending the season with registering new accommodation facilities and improving the quality of tourist service. A tourist is like a returning customer and there must be a reason for this to happen. The Varaždin County and its tourism resources must become a brand, and this is at the same time the foundation and goal for future generations in the development of sustainable tourism. Tourist sites with their offer often become a limiting factor in the further development of the tourism product. Unlike tourism sites that have tight administrative boundaries, tourism destinations do not have administrative boundaries. They become an optimally combined and market-friendly space that, by developing important and dominant capabilities in the destination, creates the preconditions that will enable it to achieve good tourism results in the long run compared to its competitors.

## 2. TOURISM IN THE VARAŽDIN COUNTY

Tourism means change, a temporary change in a person's life, an instant surrender to pleasure - despite all the troubles and excesses. Tourism is a "right" acquired for all times to come, an integral part of the customs of more and more people, an unrepeatable trend everywhere. Those who cannot travel for financial and other reasons ask in raised voices for a right that will free them from the shackles of often tedious and dehumanized work [1]. Tourism is the totality of relationships and phenomena arising from the travel and stay of visitors to a place, if such travel is undertaken for rest and enjoyment and does not establish a permanent residence and undertake any economic activity; an economic activity that encompasses tourism trends and any relationships resulting from such movements [13]. There are numerous criteria in the literature according to which it is possible to define and analyse certain types of tourism, that is, tourism movements. Thus, the types of tourism differ according to: duration of stay of tourists (excursion, weekend), degree of mobility of tourists (stationary, mobile, transit), age structure of tourists (children, youth, family, "third age"), nationality (domestic, foreign), mode of organization of travel (individual, organized, mixed), travel organization market (emissive, receptive), number of participants (individual, group), season (summer, winter), spatial coverage (local, regional, national, international, interregional, intra-regional), time when a particular resource is most attractive (pre-season, season, post-season, off-season), the area of a tourist trip (coastal, mountainous, thermal-bathing, lake, rural, urban), balance of payments (active, passive), and other types of tourism (elite, incentive, labour, social, trade union). In theory and practice, tourism is often simply divided into: mass tourism (large number of tourists, organized travel, package tours of agencies and tour operators, low prices) and alternative or sustainable tourism (alternative according to tourist content and behaviour, tourist motives in focus, offer in balance with the environment) [13]. Nowadays, tourists make their own decisions when choosing a tourist destination, depending on whether the offer satisfies their needs, whether it gives them an unforgettable experience. They want to get to know the local culture, they want to get in touch with the locals, get to know their lifestyle, gastronomy, visit festivals, museums, galleries and events that make the place specific. All this makes the quality of the offer. According to Berc and Radišić a tourist destination is a spatial and market entity in which tourist traffic takes place. Each destination has its own characteristics, identity and offer that attracts tourists. A destination can express its identity, its tourism offer through a well-designed brand, its tourism brand. The brand will be recognizable in the tourism market and differentiate itself from the competition. [2] In analyzing the tourist destination, Buhalis points out that the following elements must be taken into account: attractions (natural, man-made, purpose-built, heritage, special events), accessibility (entire infrastructure system consisting of tracks, terminals and vehicles) facilities (accommodation and catering, retail, other

tourist services), packages available (travel packages from agents and wholesalers), activities (all activities available in the destination and undertaken by tourists during their stay), ancillary services (services used by tourists such as banks, telecommunications, post offices, kiosks, hospitals, etc.) [3]. Vukonić distinguishes destinations by resource structure: homogeneous destinations (single resource destinations), heterogeneous destinations (multiple resource destinations) [14]. In his typology of destinations, Lumsdon distinguishes between stopovers or inter-destinations, short-stay destinations and daily visited destinations. "Stopover" or intermediate destinations are destinations halfway to the main destination [6]. Short stay destinations are destinations that have national or international appeal. The daily visited destinations are recognized at the regional level, where tourists stay for a maximum of one day. Evaluating the total spatial resources and tourist offers of the Varaždin County and at the same time respecting the specifics of its attraction base, the County recognizes four strong, spatially and thematically different zones/tourism activity clusters (Figure 1). Varaždin, with its concentration of top historical content and contemporary cultural scene, is a major driver of stationary and excursion tourism demand of the County:

- Varaždinske Toplice-Novi Marof cluster, with two large health-tourism centres and its health orientation throughout the entire cluster, is a focal point of tourism activity in the County;
- Central rural area, bounded by the towns of Ludbreg, Ivanec, Lepoglava, Bednja and Vinica, is an eventful traditional area intersected by numerous and varied points of interest, thematic routes and paths that can be a motive for individual visits or forming part of the rich tourism value chain of the County;
- The mountain and river area, formed in the shape of a ring by Ravna gora, Ivanščica, Kalnik and the Drava river, as preserved and protected places of pure nature and recreation are part of the rich tourism value chain of the County [4].

Figure 1: Tourism activity zones/clusters of the Varaždin County



Source: Tourism development strategy of the Varaždin County 2015 – 2025, Institute for Tourism

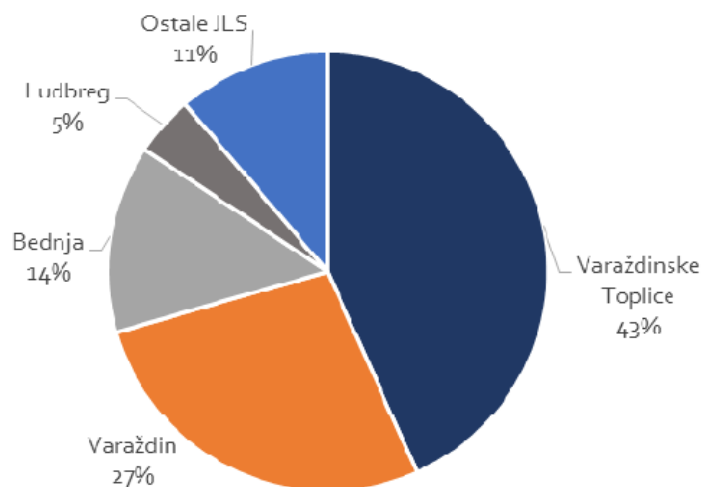
These zones/clusters and their destinations are highly complementary, although they are different in content and thematically, but complement each other and strengthen each other, creating a unique system, further strengthening the position of the Varaždin County in the tourism market as a whole. Analysing the tourism of the Varaždin County from the spatial plan aspect in the spatial plans of municipalities and cities the areas for tourist and catering purposes are planned in relatively modest areas (190.12 ha or 0.85% of the total area of the construction area, or 0.15% of the total area of the County). The premises for these purposes are planned within the construction areas of the settlement (approximately 65 ha or 0.33% of the total area of the construction area of the settlement) or as separate construction areas outside the settlement (approximately 125.12 ha or 4.95% of the total area of the separated construction area outside the settlement) [11]. However, tourism development opportunities are planned and provided within the construction areas of settlements without specially separated zones for this purpose, that is, within mixed, predominantly residential purposes and temporary housing, as well as in the areas outside construction areas but without significant construction, mainly related to the use of natural resources and agricultural production. Since the tourism system is made up of numerous tourism and complementary businesses and the accompanying factors of social upgrading, following the theory and practice of management, tourism should be approached differently than traditional economic systems whose sole purpose is to maximize profit based on consumer satisfaction [6].

### **3. ACCOMMODATION CAPACITIES IN THE VARAŽDIN COUNTY**

The Varaždin County has successfully implemented the Call for Proposals for Tourism in the amount of HRK 1 million for the improvement of accommodation capacities in order to raise the quality of accommodation to a higher level. In 2014, nine hotels operated in the County, most of them 3\* hotels (two hotels in Varaždin, two in Ludbreg, one in Ivanec and one in Kneginec Gornji), two 4\* hotels (one in Varaždin and one in Trakošćan), and one 2\* hotel (Ludbreg). There are also two guesthouses operating in Varaždin, one guesthouse operating in Novi Marof, while one guesthouse is organized in Lepoglava ( part of the penitentiary) and one in Sračinec. (Varaždin County Tourist Board data). According to official statistics, at the end of 2013, 2,026 beds were registered in eight hotels (782 beds), three spas (492 beds), six non-categorized facilities (572 beds), five guesthouses (108 beds) and one in one hunting lodge (20 beds), as well as in 12 households providing family/private accommodation (22 beds). Due to the seasonal-type business, the largest accommodation capacity was registered in August 2013, when there were 30 different collective accommodation facilities and 15 households (Figure 2).

*Figure following on the next page*

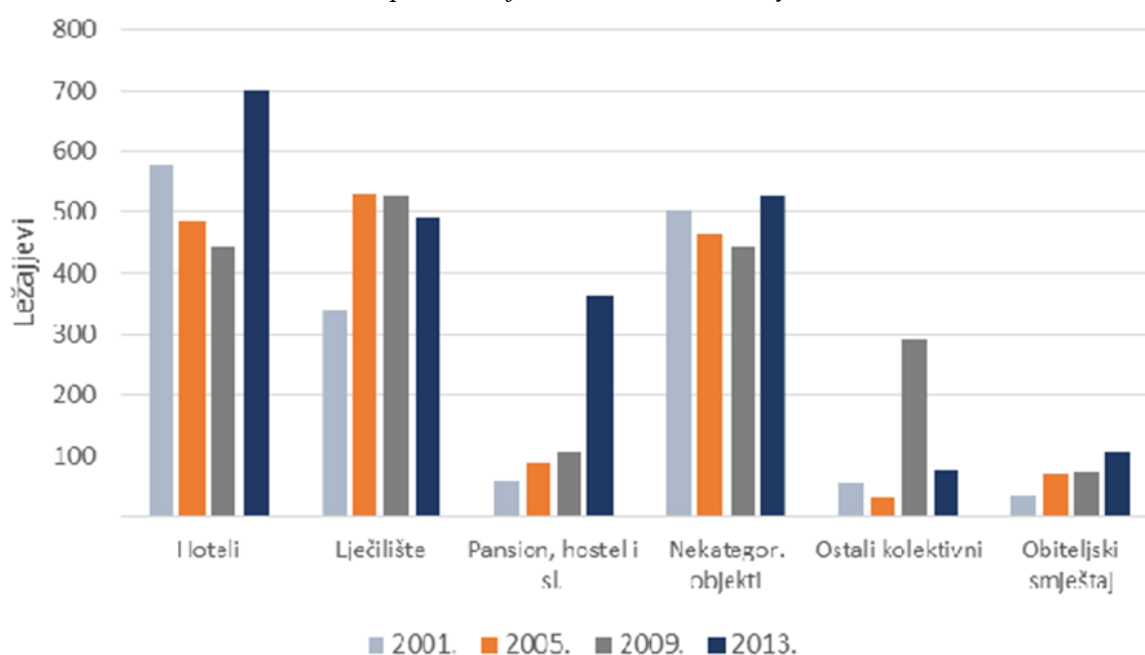
Figure 2: Structure of available commercial accommodation capacities (beds) by cities and municipalities of the Varaždin County in 2013



Source: Tourism development strategy of the Varaždin County 2015 – 2025, Institute for Tourism

In the period 2001 to 2013 (Figure 3), the County's accommodation capacity measured by permanent beds increased by 44%.

Figure 3: Structure of available commercial accommodation capacities (beds) by cities and municipalities of the Varaždin County in 2013



Source: Tourism development strategy of the Varaždin County 2015 – 2025, Institute for Tourism

In addition to the group of boarding houses, hostels and similar capacities, in which the capacity was increased several times (with the beginning of using the dormitory as a youth hotel in 2010), the largest increase in the number of permanent beds was recorded in the group of spas (152 beds or 45%) and hotels (121 beds or 21%). On the other hand, family accommodation capacity increased the most (181%).

Pursuant to the Tourism Development Strategy of the Republic of Croatia [12], the National Program for the Improvement and Development of Family Accommodation by 2020 was adopted, which in its introduction emphasises that family accommodation in households (houses/apartments for rent, tourist apartments, rooms) makes today almost half of Croatia's available, statistically registered, commercial accommodation capacity [9]. It is really about accommodation of different qualitative levels and presentability owned by persons of unequal training to provide tourism and catering services. In accordance with the National Program for the Improvement and Development of Family Accommodation, the structure, quality and other features of family accommodation known so far are changing. Financial incentives, education programs, networking contributed to this. In addition, there are other measures being prepared to improve and develop this type of accommodation. In order to develop tourism in the area, based on the Tourism Development Strategy, the Varaždin County Tourist Board shall initiate activities to develop and improve accommodation in households in the Varaždin County area. Based on the research, an increasing number of tourists are looking for a more meaningful holiday, designing a holiday according to their wishes. They ask to be interested, attracted and retained by the offer. Statistics and data analysed show that natural beauty is no longer a sufficient factor of attractiveness, especially for the more demanding market segments that strive for more substantial and active leisure time. All these elements speak about the growing need for non-standardized services and individualized tourist behaviour, which is directly linked to the quest for self-determination (emancipation) and the 'do it yourself' principle, greater travel experience among the population, which goes hand in hand with more selective, critical and quality oriented approach to individual holiday planning, but also with increasing refinement of demand and rationality of choice, growing desire to connect with nature, to gain first-hand experience and an active holiday (e.g. "hobby holiday", "trekking holiday", agritourism), increased environmental awareness and sensitivity to quality of life in general, increasing efforts to learn, which is often manifested by serious attempts to learn about foreign cultures [7]. Guided by all these elements, the goal of developing sustainable tourism and the project "Holiday Homes with a Story" is to develop a tourism offer in the rural area, with an increase in the number of accommodation facilities with diversification based on cultural and historical traditions while raising the quality. The tourism market is an economic space on which the forces of tourism supply (suppliers of goods and services) and tourism demand (buyers, tourists) meet, in which prices and quantities of the product being sold or purchased and tourism products are traded. The form of these products depends on the way in which they are distributed, so it is possible to buy travel packages (created and offered by travel agencies) or to buy products individually, which is more complex. For the sake of simplicity, the modern tourism market is dominated by functional intermediaries, i.e. travel agencies [8].

#### **4. SUSTAINABLE DEVELOPMENT FRAMEWORK OF THE VARAŽDIN COUNTY TOURISM**

Environmental quality and the development of natural tourist attractions are fundamental elements of tourism development, which raises many questions: is tourism sustainable, what are the costs and benefits of tourism and what can be achieved in the national and local economy, culture and environment? An increasingly common approach to tourism planning as well as planning in general is the achievement of sustainable development. Sustainable development presupposes that natural and other tourism resources are preserved for future use while being used by current generations. In the future, according to many predictions, the environmental impact of tourism will be even stronger, especially on nature, land, water and energy. The significant impact of tourism is confirmed on the resources in natural ecosystems and resources (land, fauna, flora, landscape and air) built environment (especially architectural heritage), local communities (culture, value element, attitudes) local, regional and national

economy [10]. From the perspective of tourism development in the Varaždin County, sustainable tourism development frameworks imply a well-designed and mutually coordinated economic/tourism activation of all tangible and intangible resources available to the County. This includes the available development space in the tourist valorized destinations of the County's market potential, including the cities of Varaždin, Varaždinske Toplice, Trakošćan, Ludbreg and Lepoglava, as well as destinations in other areas that are still not touristically fully valorised. In the context of global awareness raising on the negative consequences of physically and socially devastated space and significant changes in the characteristics of customers and competition, the growth and development of tourism activity in the Varaždin County is envisaged in the framework of creating and managing tourism, economic growth and development on the principles of long-term economic, social and environmental tourism sustainability.

*Table 1: Principles of tourism development in the Varaždin County*

<b>SPATIAL SUSTAINABILITY</b>	<b>SOCIAL SUSTAINABILITY</b>	<b>ECONOMIC SUSTAINABILITY</b>
Responsibility	Partnership	Networking
Capacity	Planning	Balance
Protection	Preserving the spirit of the place	Coordination

*Source: Tourism development strategy of the Varaždin County 2015 – 2025, Institute for Tourism*

The sustainable tourism development framework of the Varaždin County imposes the need to link the tourism development strategy with the achievement of conditions for the preservation of natural heritage and biodiversity, the material, cultural and social heritage, as well as the conditions for the sustainable market business operation of economic entities. In this respect, a sustainable tourism development framework needs to be aligned with the determinants of spatial-ecological sustainability, social sustainability and economic sustainability, which can be translated into a system of nine interconnected principles (Table 1), which implies continuous harmonization/alignment of interests of all tourism development stakeholders, including the local population, around key activities both in the public and private sectors.

## **5. PROJECT "HOLIDAY HOMES WITH A STORY"**

Family accommodation in households (houses/apartments for rent, tourist apartments, rooms) today accounts for almost half of the available, statistically registered, commercial accommodation capacity in Croatia. It is about the accommodation of different qualitative levels and presentability owned by persons of unequal capacity to provide tourism and catering services. Although at present there are no official statistics on the structure of family accommodation by category (the Croatian Bureau of Statistics does not collect this data), it is justified to state that this is accommodation of different competitive potential that cannot be satisfactorily commercialized in a unique way [9]. The project "Holiday Homes with a Story" was conceived and launched with the aim of raising the tourism offer of the Varaždin County, improving the offers of family accommodation in the Varaždin County and increasing the quality of service and competitiveness. The goals and expected effects of the Holiday Homes project are set in a way to achieve greater market recognition through enhanced promotion of family accommodation (especially in the electronic media), organization and implementation of joint education programs, but also the inclusion of complementary content and services in the offer itself. "Holiday Homes with a Story" is a project initiated by the Varaždin County and the County Tourist Board with the idea of presenting all the best of the Varaždin County in holiday homes. Therefore, it is branding of rural and autochthonous accommodation that aims to acquaint local and foreign tourists with everything that the Varaždin County has to offer. The visible trend over the last two or three years, which is experiencing exponential growth is

precisely the rural parts of continental Croatia, which have hitherto been completely hidden from the public and are a new trend in Western Europe. According to information from the Varaždin County Tourist Board, as many as 90 percent of tourists who come to Holiday Homes are Germans, Danes, Scandinavians and what is perhaps most interesting to homeowners is that their average stay is at least seven nights, most of them stay for 10 days or two weeks. The Holiday Homes with a Story project was launched in 2016 when only 12 establishments were registered, with the aim of a new unique tourist accommodation offer with an authentic story that will be linked to the offer of the environment itself. This project involved all stakeholders who can participate, as well as all those who make the tourism product (from family farms, winemakers, associations). The reason for launching this idea was the lack of hotel accommodation in the Varaždin County area, which could not keep up with trends in the European market, and the interest for which was expressed by the family accommodation offer (Table 2).

*Table 2: Statistical data on the number of registered objects in the Varaždin County*

YEAR	NUMBER OF REGISTERED ESTABLISHMENTS	NUMBER OF OVERNIGHT STAYS	INDEX	SHARE IN TOTAL OVERNIGHT STAYS
<b>2016</b>	12 (37 beds)	1.053	In 2015, different measurement methodology so the correct index cannot be extracted	0.79 %
<b>2017</b>	15 (66 beds)	2.363	224,41	1.66 %
<b>2018 to 31/7</b>	25 (106 beds)	2.131	222,21 (for the period of the year 2017)	2.31 % (do 31.

*Source: Varaždin County Tourist Board*

The Holiday Homes with a Story project had two stages of development. In the first phase in 2017, a field analysis of holiday homes with a story was made, a register of houses was made with an analysis of their existing condition, a photo documentation of the analysed houses was made, a book of standards, a visual identity, a proposal for the design of a unique brochure. During this period, it is important to emphasize that the project was submitted to the call for proposals of the Croatian National Tourist Board, on the basis of which HRK 40,000 was approved, while the Varaždin County co-financed the project with HRK 20,000. In the second phase in 2018, a Rulebook was issued for the award of standards for the "Holiday Homes with a Story" project, a committee for the implementation and control of the project was created, a standard labels for objects were made, web design and web platform programming, project branding was created, production and printing of a bilingual brochure (Croatian and English), engaging experts in site research and establishing a link to accommodation facilities. According to statistics, it is estimated that most foreign tourists want to come to these houses. Today, tourism trends are changing and it is not all "the sea, the crowds, the beaches, the highways." People are crowded all year long in big cities, in undergrounds, in traffic, and simply want peace and quiet, which is exactly what "Holiday Homes with a Story" offer in nicely decorated rooms, with local food, with indigenous foodstuffs, with local manifestations. After two rounds of rigorous certification, out of about 60 holiday homes in the Varaždin County, 34 projects with 151 beds are included in this project, ending in 2019 (Table 3).



*Table 3: Certified Holiday Homes with a Story in the Varaždin County*

NUMBER	NAME OF ESTABLISHMENT	STORY OF ESTABLISHMENT	LOCATION
1.	MAJA S VILLAGE HOUSE	Where everything smells homemade	SEKETIN
2.	VINEYARD VILLA VARAZDIN	Among the green hills	TURČIN
3.	KUĆA ZA ODMOR HERCEG	Tradition imbued with a good drop of wine	VINICA
4.	BREGEČ RURAL HOUSE	An unforgettable holiday on an idyllic hilltop	VARAŽDINSKE TOPLICE
5.	FLOWER STREET HOUSE	By the source of beauty and youth	VARAŽDINSKE TOPLICE
6.	KUĆA ZA ODMOR MINTAS	House of fond memories	NOVI MAROF
7.	BRVNARA NOAH	Wonderful place over which clouds break	NOVI MAROF
8.	KUĆA ZA ODMOR ROMANA	Panopticum of unreal beauty	SEKETIN
9.	GREBENGRADSKA MEDINA HIŽA	On the sunny side of history	TOPLIČICA
10.	EVINA KUĆA	Perfect match for pure pleasure	IVANEC
11.	KUĆA ZA ODMOR KOPJAR	Relaxing moments in a green oasis	KELEMEN
12.	MOMENTS POOL HOUSE TRAKOŠČAN	Imagination becomes an experience	TRAKOŠČAN
13.	KUĆA LJEŠNJAKA	Only the best of nature	LUDBREG
14.	HIŽA GOLUBIĆ	A rustic house irresistibly preserves the past	VINICA
15.	KUĆA ZA ODMOR MATURANEC	Countryside rich in tradition	JALŽABET
16.	54 GREEN ROAD	Escape to nature and peace	KUĆAN MAROF
17.	KUĆA ZA ODMOR BREZOVEC	The charm of a harmonious epoch	BERETINEC
18.	KUĆA ZA ODMOR BURG	A house overlooking history	VINICA
19.	RATKAJEC LUXURY APARTMENTS	A modern building in the old Varaždin street	BREZNICA
NUMBER	NAME OF ESTABLISHMENT	STORY OF ESTABLISHMENT	LOCATION
20.	POOL VILLAGE HOUSE	Country charms in the valley of the river Lonja	BREZNICA
21.	POOL JACUZZI DREAMS	Hill of Joy	GORNJI KNEGINEC
22.	OAK COTTAGE/APARTMAN MATAK	Chat of the herald of happiness	MARUŠEVEC
23.	TONKINA KUĆA	The most beautiful piece of the world	BEDNJA
24.	KUĆA ZA ODMOR MILK AND HONEY	Precious moments for fantasy	NOVI MAROF
25.	VILLA MILA	Oasis for birds and humans	LUDBREG
26.	RURALNA KUĆA ZA ODMOR DOMUS ANTIQUA	Overlooking the distant past	DONJA VOĆA
27.	KUĆA ZA ODMOR BITOŠEVJE	Celebration of the nature of unreal beauty	KLENOVNIK
28.	COUNTRY HOUSE IMANJE PIJEVCI	Waking up with roosters	NOVI MAROF
29.	RURALNA KUĆA ZA ODMOR RIM	A place where time flows differently	VELIKI LOVREČAN
30.	HOLIDAY HOME BOLTAR	An inexhaustible source of good spirit	SEKETIN
31.	APARTMAN JULIJAN	Under the old city bells	VARAŽDIN
32.	OLD OAK HOUSE	The most picturesque castle in the Varaždin region	MARUŠEVEC
33.	RURALNA KUĆA GABRIJELA	The house is known for wood	LUDBREG
34.	KUĆA ZA ODMOR SANJALICA	The primeval beauty of the whimsical river	SRAČINEC

*Source: Varaždin County Tourist Board*



The Varaždin County Tourist Board has provided a free "Varaždin kištrica" for all holders of the "Holiday Homes with a Story" standard, which now contains Varaždin pumpkin oil, gingerbread, honey, macaroons made of buckwheat flour, lavender and eco-cosmetics, as well as tourist brochures with all relevant information. For the project "Holiday Homes with a Story" a trilingual catalogue of "Holiday Homes with a Story" is present, which, in addition to numerous information about the objects themselves, contains service information about the Varaždin County, about interesting things, events and everything that should be visited and experienced. "Holiday Homes with a Story" is one of the brands of the county tourist board whose goal was to gather, help and support on the one hand private renters, owners of facilities that are mostly in the rural part of the Varaždin County, and on the other hand hear and get feedback information from tourists and to adapt and give a wider context of destination management.

## 6. CONCLUSION

The Varaždin County, rich in beauty, tradition and people is certainly the pearl of north-western Croatia. The county recorded an increase in tourist traffic year after year, which has a positive effect on the economy. The offer is mostly based on well-known tourism promotion, but this is no longer enough to attract tourists. A modern tourist, exposed to everyday problems and stress, more often chooses to escape to rural areas in order to be in touch with nature as much as possible. In addition to nature, he is increasingly expressing his desire to learn about the tradition and culture, and the local population of the region where he lives. The natural preconditions for the development of tourism (and catering) in this area are, on the whole, more modest than the conditions along the Adriatic coast, but this does not mean that in the Varaždin County tourism development cannot take on a more significant role in economic development and employment than before, especially in the development of rural tourism in rural areas. Therefore, this project "Holiday Homes with a Story" is a positive example of how along with promotional activities, education, service providers and the local population can positively influence the supply and demand of the same in the sustainable development of tourism. Every holiday, even the passive one, requires a certain comfort, service, gastronomy, history and architecture, art and culture, because this is the only way to create an experience, which is very important for the perception of every serious tourist.

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## LANGUAGE BARRIERS IN TRANSLATION OF LOCAL EXPRESSIONS IN THE ENGLISH LANGUAGE

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### ABSTRACT

*Communication in the English language is a skill that tourism professionals need to master in order to avoid language barriers and potential misunderstandings, as well as to communicate successfully with their guests. Tourism professionals encounter different language barriers when translating local expressions into English. For example, there are numerous local expressions that cannot be translated into English literally, especially those referring to the dialectal speech of the Split area called 'čakavština', which is included in the cultural heritage and represents an intangible cultural heritage. Cultural and historical heritage are important to maintain tradition and preserve the authenticity of the area, therefore the translation of vocabulary describing them should be approached carefully in order to maintain the spirit and history they represent. This paper deals with precisely those local expressions since they are used in everyday speech in the city of Split, with particular emphasis on terms often used by tourism professionals such as tour guides and expressions which are part of the intangible heritage. Such words and expressions often cause problems when directly translated into English, therefore this paper firstly presents their meaning in the standard Croatian language. Then, it points to the language barriers that appear when translating these local expressions, and finally offers an optimal translation into English. Words and expressions used in description of the local sights of the city of Split were selected, as well as translations of local gastronomic expressions and the names of traditional dishes and groceries. Some improvements in translation can leave a completely different impression on foreign guests and make a big difference. Therefore, the paper also examines methods of teaching English to college students and future tourism professionals.*

**Keywords:** *Cultural heritage, Dialectal speech, Education of tourism professionals, Language barriers, Translation*

### 1. INTRODUCTION

Croatian tourism has developed rapidly in the last few years and with its development, a need for skilled and educated workers has risen as well. Tourism professionals play an important role in presenting and interpreting the cultural heritage of the city or area in which they operate. Among other things, they are in charge of representing the cultural material to foreign tourists and to recount the history of a certain site. In order to do it correctly and professionally, they must use foreign language.

In this paper, emphasis is put on the knowledge of the English language which is adopted as a common language between speakers who do not share the same native language. But the knowledge of language is not all it takes to communicate successfully or to achieve mutual comprehension. Each language contains certain cultural characteristics that usually cannot be expressed well enough in another language. Tourism professionals are often challenged to use the proper language to describe and translate those cultural characteristics. Very often they have to use dialectal phrases to describe the right object, site, atmosphere or event and the problems arise when trying to translate them into the English language. The city of Split has a rich cultural heritage that is reflected in buildings, archaeological and historic sights and also in dialectal speech which is considered to be intangible cultural heritage and as such it is protected by the Ministry of Culture of the Republic of Croatia. It is called “Čakavština” and it has been passed on from generation to generation for centuries. The dialectal words of the Split area are authentic and significantly different from the standard Croatian. Translating them into English is a difficult job for any tourism professional, as some terms cannot be translated literally but only roughly described. The aim of this paper is to present a brief history of Croatian tourism that has led to the need for skilled tourism professionals. The aim is also to present examples of the cultural heritage of the city of Split, especially the intangible heritage with an emphasis on dialectal words. The paper lists examples of local terms used in everyday speech in the area of the city of Split and its surroundings and explains and translates their meaning in the English language.

## 2. DEVELOPMENT OF TOURISM IN CROATIA

Tourism is considered one of the fastest growing industries in many countries. Croatia is not different, so tourism plays a vital role in its economy. According to Pirjevac and Kesar (2002), tourism in Croatia has developed in four phases: first one has finished with the beginning of World War I, second one took place between the two World Wars. The third phase was from World War II until 1990, and the last phase belongs to the recent Croatian history. Batolucio and Čavlek (2011) stated that the first phase of the tourism development lasted until the second half of the 19th century and included a period of development of tourist-like activities, namely visits to Zadar as a pilgrimage stop to the Holy Land and the establishment of the first wellness and spa centres (Daruvár Spa, Stubice Spa and Varaždin Spa). The second phase, from the second half of the 19th century until the beginning of World War I, marked the progress of road transport and the introduction of steam lines on the Adriatic Sea. The first hotels opened, primarily in Opatija and along the Kvarner coast. The first tourist guidebooks were written and published, research trips to the Adriatic coast were organized, and coastal towns, especially those in Kvarner, became centres of health tourism. First tourist offices were established as well. In the period between the two World Wars, tourism experienced a strong growth with the increased number of tourists on an annual basis, mostly domestic, but also those from Germany, Czechoslovakia and Austria. Residence taxes were introduced, tourist magazines were issued, exchange offices opened, domestic and international air lines established. The tourist infrastructure that was destroyed in the War was renovated. National and nature parks were proclaimed, drama, film and music festivals such as Dubrovnik Summer Festival, Pula Film Festival and Split Summer were established. During the economic expansion of the 1960s, many tourist facilities, hotels, marinas and camps were built, mainly in the Adriatic, but also in the continental parts of Croatia (wellness centres and spas in Hrvatsko Zagorje and Slavonia, the areas of national parks in Lika and Gorski kotar). In the early 1990s, tourism companies were converted and privatized, and during the Homeland War, tourism as an industry almost disappeared because of the war threat and the blocking of traffic links to coastal regions. The tourist facilities were used to house many displaced persons from all parts of the Republic of Croatia, as well as refugees from neighbouring Bosnia and Herzegovina.

After 1995, there was a new growth in tourism. Since 2000, a number of Croatian tourist destinations have witnessed a strong increase in the number of foreign tourists, which places Croatia at the top of the world tourist demand. Tourism in Croatia has experienced tremendous growth in the last few years. There are huge numbers of tourist arrivals and an increase in overnight stays. Mass tourism is mostly reflected in coastal cities such as Dubrovnik and on the islands, especially in the Kvarner area. The reasons for the growth of tourism in Croatia are an increase in the number of hotels, apartments, holiday homes, expansion of tourist offer, entry into the European Union and a peaceful and stable situation in the country.

### **2.1. Tourist supply and demand**

According to Petrić (2007), the tourist offer is a part of the tourist market where tourists are offered and sold various goods and services that meet their tourist needs. The tourist offer can be basic, complementary and complex. The basic offer includes accommodation, restaurants, bars, entertainment and recreation facilities. The complementary offer supplements the basic tourist offer by providing cheaper accommodation such as camps, resorts and private accommodation. The complex tourist offer is an overall tourist offer of a destination. Tourist demand is a certain amount of goods and services that tourists want to buy at a certain place, time and under certain conditions. The offer of tourism products and services on the Croatian market is constantly increasing. Croatia follows the trends of other tourist destinations and in addition to the basic tourist contents, follows new trends and technological innovations on the market. Due to a large tourist offer that has been improving and modernizing for years, the demand of tourists who visit Croatia grows equally. Knowledge of the English language is also an important part of the total tourist offer. English has rapidly become an international lingua franca, thus becoming an essential skill of any tourism professional with an ambition. It is extremely important in order to facilitate communication. The goal of every travel and tourism professional should be to create comfortable and pleasant atmosphere for visitors in order for them to adapt to a new culture and to leave a remarkable impression about the place and the country they have visited. And what is a better way to do it but to start with an excellent knowledge of foreign language. The translation into that foreign language should be credible, but one should not strive to find words of the same meaning in another language, in this case English, as this is impossible. The examples given in the paper show the inability of each word to be translated into English and thus demonstrate the richness and authenticity of the Split dialect.

## **3. THE IMPORTANCE OF PRESERVING DIALECTAL WORDS AS INTANGIBLE CULTURAL HERITAGE**

### **3.1. Cultural heritage**

According to the Ministry of Culture, cultural heritage is a heritage in the material or tangible, and intangible form of a certain society and represents the common wealth of humanity because of its specialty and diversity. Therefore, its protection is one important factor for recognizing, defining and affirming cultural identity. Tangible heritage consists of movable and immovable cultural property of great historical, artistic, paleontological, anthropological, archaeological and scientific importance. Immovable cultural assets include cities, villages, buildings or parts of buildings, gardens, parks, archaeological sites, landscapes and many others. Movable cultural properties are objects that are the product of human labour and have symbolic value. The movable cultural heritage consists of a collection of objects in museums, galleries, libraries, church inventory and objects, films, archaeological sites, ethnographic objects and numerous other objects of cultural importance. The city of Split has a rich cultural heritage that is reflected in buildings of historic importance. For example, the most prominent cultural attraction in the city is the Diocletian's Palace, which was listed as the World Heritage Site in 1979 by the

UNESCO. In addition to the immovable cultural assets of the palace and the historical objects within the palace, Split has a number of unique items classified as the movable assets on display in the museums and galleries. In addition to its material cultural heritage, Split also offers a broad intangible cultural heritage, which is reflected in numerous events organized annually in the city of Split. The most prominent city manifestations are Split Summer, Diocletian Night, Marulić Days, Mediterranean Film Festival Split, etc.

### *3.1.1. Intangible cultural heritage*

Intangible cultural heritage is an intangible cultural expression of a space or community. The intangible cultural heritage influences the cultural identity of the area and is also called living cultural heritage and is manifested in the following domains:

- 1) Oral tradition, expression and language;
- 2) Performing arts;
- 3) Social practices, rituals and ceremonies;
- 4) Knowledge and practice of nature and space;
- 5) Traditional crafts.

### **3.2. Dialectal speech and its protection**

As stated on the web pages of the Ministry of Culture, a dialect is a speech of a place or a region and as such represents intangible cultural heritage. It is passed on from generation to generation, enriching and influencing the cultural identity of the location. Oral tradition, language and dialects as intangible cultural heritage are internationally recognized as an important guideline for preserving cultural identity. Many features of intangible cultural heritage such as dialects and spoken expressions are at risk of extinction due to various factors such as globalization, standardization of language, tourism, industrialization, rural exodus, and migration. As stated in Mardešić and Komac (2017), Ministry of Culture of the Republic of Croatia protected 'Čakavština' speech as an intangible cultural property by a resolution adopted on 9th January 2013. Measures to protect Split dialectal speech are listed below:

- 1) Promote the function and importance of 'Čakavština' in the society and include the importance of its protection in planning programs;
- 2) Ensure the sustainability of the dialectal speech through education, identification, documentation, scientific research, conservation, protection, promotion, enhancement, the ability to transmit tradition to descendants through formal and non-formal education and the revitalization of abandoned segments of the speech;
- 3) Sensitize the public and support the protection and preservation of the speech by identifying the processes of globalization and social transformation in order to avoid the danger of its disappearance;
- 4) Encourage the development of native vocabulary and grammar;
- 5) Include the preservation of mother tongue in the curricula of primary and secondary education.

## **4. LANGUAGE BARRIERS IN TRANSLATION OF LOCAL EXPRESSIONS IN ENGLISH LANGUAGE**

Croatian is a complex language consisting of several dialects: Štokavica, Kajkavica and Čakavica. Each dialect consists of speech of a particular place, region or province. Every city, including the city of Split, has its own local terms and dialects that have been used in everyday communication for years. Those expressions differ from other expressions of places or towns that belong to the same region. Knowledge of a certain language also implies knowledge of the culture and traditions of its people and that is one of the reasons why it is difficult to translate local expressions into English.

In order to translate them correctly, especially those which relate to traditional dishes and food, one has to get familiar with the cultural heritage and customs of the people living in the area. The city of Split has a long tradition and rich cultural heritage as well as a distinctive Split dialectal speech that differs significantly from the standard Croatian language. There are many dialectal words in the Split dialect that are difficult to translate into English. Moreover, translation is a very complex and demanding process that involves the transfer of meaning from one language to another. Obstacles arise when authentic Croatian words are translated into English since they cannot be translated literally and vice versa. Also, there are some dialectal words used in the Split area that cannot be translated into standard Croatian, thus causing even bigger problems when translating them into English. Such problems in translation are called language barriers. When encountering language barriers, translators must find a synonym for the word they want to translate or describe it by using multiple words. In their everyday work, tourism professionals have to use different expressions that tourists cannot literally translate into English. Most of the time, they translate the words in the standard Croatian language first and afterwards they try to explain them as vividly as possible. Words such as 'fjaka', 'štekat' and 'bonaca' are an indispensable part of everyday life and conversations in Split and should not be avoided when promoting Split's cultural heritage and tradition. Therefore, a proper translation should be provided.

#### **4.1. Translation of local expressions**

According to Jutronic and Magner-Thomas (2006), there are words in the Split dialect which are easy to translate, that is, there is an English equivalent. Those are for example words such as "adio" which means "goodbye" and in standard Croatian language "dovidenja", "beside" ("riječ" in standard Croatian) meaning "the word", "beštinja" ("psovka" in Croatian) meaning "the curse" or "a dirty word", "buža" ("rupa" in Croatian) meaning "a hole" and others. However, words such as "balatura", "bankina", "balota" are difficult to be explained to tourists, therefore they require a more detailed explanation in English as well as in the standard Croatian language. "Balatura" can be best translated as "the staircase leading to a small terrace which is a typical entrance of Dalmatian homes". "Bankina" is "a stone wall separating promenade from the sea" and "balota" is "a wooden bowling ball". There are words such as "ćakula" which is a noun from which the verb "ćakulati" originated, which could be translated into English as "chatter or gossip", and words "ćakulon" and "ćakulona" as "a male person who likes to gossip" and "a female person who likes to gossip". These words have no exact Croatian or English translation, and they usually represent things or phenomena that are not often seen in other countries or regions in Croatia. "Fjaka" is a word that is simply translated as laziness, but it does not fully grasp its meaning. In Split it represents "a sublime state of mind and body" or "psychophysical state with an inattentive desire for nothing". Foreign media are fascinated by the phenomenon "fjaka" and they interpret it differently, as "the art of doing nothing". They also say "it is like a faint unconsciousness" or "a special kind of general immobility, drowsiness and numbness, a weariness and indifference towards all important and ancillary needs, and a lethargic stupor and general passivity on the journey to overall nothingness". The noun "gušt" and the verb "guštati" mean "to enjoy", and they are usually associated with a rest, in English they are translated as "enjoy" or "to have fun". Since in Dalmatian area there are different ships when it comes to their size and purpose, there are also different expressions describing them. Therefore, "kaić" is a small boat, usually not containing a cabin, and "barka" is "a boat with a cabin". They are both translated as "a small boat" in the English language. "Picigin" is a term that is difficult to explain in Croatian and even more difficult in English. It is a sand game most commonly played on the Split beaches of Bačvice and Firule, where players stand in a circle and pass each other a small rubber ball with the palms of their hands. The goal of the game is to keep the ball in the air all the time, and for this reason players often end up in the sea throwing

themselves to catch the ball. The usual translation is a “beach ball” because there are no words that can explain the term exactly. However, there are words such as “dišturbat” and “dišturbatvat” which have the same Latin origin as those in the English language so they have the same root and the meaning as the word “disturb”. The word “lumbrela” and English word “umbrella” have the same origin. In the standard Croatian language expression “kišobran” is used for the same purpose. Word “mirakul” means “miracle” and in standard Croatian “čudo”.

#### 4.2. Translation of local city sights

According to the information from the website of the Tourist Board of the City of Split, the following section of the paper lists all the cultural sights of the city of Split, monuments, buildings and all other attractions in the Croatian language with an appropriate translation into English:

- Dioklecijanova palača- Diocletian Palace;
- Katedrala Sv. Duje- Cathedral of Saint Domnius;
- Mauzolej rimskog cara Dioklecijana- the Mausoleum of the Roman Emperor;
- Zlatna vrata- the Golden gate which lead to Peristyle;
- Kip biskupa Grgura Ninskog- the Statue of Bishop Gregius of Nin;
- Srebrna vrata- the Silver gate;
- Željezna vrata- the Iron gate;
- Mjedena vrata- the Brass gate;
- Vestibul- Vestibule;
- Jupiterov hram- Temple of Jupiter;
- Dioklecijanovi podrumi- the Diocletian Palace Substructures;
- Squares: Pjaca and Prokurative are not translated into English but they have the same name, whereas Voćni trg can be translated as 'Fruit square';
- Sakralni objekti: Franjevačka crkva i samostan Sv. Ante- Franciscan Church and the Monastery of St. Anthony, Crkva i samostan Sv. Frane- The Church and the Monastery of St. Francis, Crkva Sv. Trojice- The Church of the Holy Trinity, Crkva Sv. Filipa Nerija- Church of St. Philip Neri, Crkva Sv. Martina- Church of St. Martin;
- Riva- Riva;
- Matejuška- Matejuška port;
- Marmontova ulica- Marmont street;
- Zapadna obala- The West coast;
- Stari plac (Staro Hajdukovo igralište)- the old soccer stadium of club Hajduk;
- Hrvatsko narodno kazalište Split- Croatian National Theatre Split.

#### 4.3. Translation of local gastronomic offer, traditional dishes and groceries

The local gastronomic offer of the city of Split is rich in various traditional dishes. Some of the local specialties have been translated into English. Traditional meals:

- Brujet/ Brudet- traditional Dalmatian stew or fish cooked in oil, wine and vinegar;
- Crni rižot- black risotto made of cuttlefish, squid, olive oil, onion, garlic, parsley and red wine and given its black colour by the addition of squid;
- Dagnje na buzaru- mussel cooked with olive oil, wine, garlic, breadcrumbs, and fresh herbs. Buzara is translated as a 'special way of preparing food';
- Dalmatinska janjetina- Dalmatian lamb prepared in a special way;
- Kuhana škarpina- boiled red scorpion fish;
- Pašticada- Dalmatian speciality consisting of beef rounds larded with smoked bacon in sauce made from dried fruit and apples, tomato paste and red wine;
- Riba na gradele- grilled fish;



- Teletina ispod peke- roasted veal under the bell;
- Riblja juha- fish soup;
- Rižot od kozica- shrimp risotto;
- Rožata- traditional Dalmatian pudding with caramel sauce, a dessert similar to the French Crème Brulee;
- Škamp na buzaru- scampi stew.

## **5. TEACHING METHODS**

Nowadays, tourism is considered one of the most perspective industries in the world and it is a great generator of employment. With globalization, the English language has become an international language and it is widely used as a lingua franca. English is taught at schools, both elementary and secondary, colleges, universities and it is a compulsory subject. Students of International Hospitality and Tourism Management at Aspira College study according to programs which prepare them for a range of jobs in tourism, hospitality and hotel industry. Students are highly motivated to meet the requirements for their future jobs since high proficiency in English is taken for granted when applying for a job. When it comes to teaching methods, teachers have to analyse their class structure and take into consideration their students' needs. It is important to know why something is taught and if the teaching material will meet students' goals and objectives. During classes, a variety of topics are discussed freely among students and they participate gladly. However, when topics concerning our cultural heritage are discussed as a part of the unit, certain difficulties are noticed. Knowledge of our cultural heritage and tradition is more or less unquestionable, but students lack their communicative competence in English. Limited and poor vocabulary concerning our local culture causes the main problem because it limits their speaking skills. The explanation for this lies in the fact that from the first grade of their elementary schools students are exposed to teaching materials that mainly cover vocabulary connected to culture of English speaking countries. Therefore, certain methods and innovations have been implemented in teaching English to raise students' awareness about the importance of preserving our culture whilst improving their communicative competence.

### **5.1. Task-based teaching method**

Task-based method is the first to be introduced and it is completely student-oriented. The teacher sets a task and students are expected to use their pre-existing knowledge in English and skills in order to complete the task. On the class of English for international tourism students had to refresh their knowledge on cultural heritage and local customs of the city of Split. They were divided into teams. Each team had to do research on the cultural heritage and tradition of the city of Split. Afterwards, each team had to analyse and translate into English a part of local culture, either local words and expressions, local historical sites or gastronomic offer and traditional dishes and groceries. Students encountered many difficulties when translating local words and expressions since many of them are exclusively part of our local cultural heritage. These words can hardly be found in a bilingual dictionary. The research conducted on local terms and expression also showed students how superficial knowledge and poor vocabulary they had on their local culture.

### **5.2. Communicative teaching method**

The method itself stands for a variety of activities which teachers use to improve students' speaking skills. The goal of the method is to improve the learners' ability to communicate the content instead of being grammatically completely correct. After all, knowledge of all grammar rules and structures has little meaning if one is not able to use the language in a concrete situation. This method has proved to be learner-centred and content-based. It seems

unacceptable for future employees in the tourism field not to be able to present their own cultural heritage and tradition. Therefore, after conducting a detailed research of local terms and their translation into English, English names for local historical city sights and monuments, local gastronomy and traditional dishes, students reported and presented their work to the rest of the class. The outcome was impressive. This interactive and co-operative way of learning the language contributed to referential category of the use of language. The acquisition of new vocabulary and its usage offered not only an invaluable contribution to the content of the lessons, but also took learning opportunities outside the classroom and offered a new method to be practised.

#### *5.2.1. Simulation-based learning*

The next step to improve students' communicative competence introduced simulation of real situations into classroom. Future employees in the tourism field got a chance to try their skills as tour guides. Students used PowerPoint presentation to simulate a walking tour around the city of Split. Each student presented a different local sight, incorporating newly acquainted vocabulary, whereas the other pretended to be a group of tourists visiting Split.

### **5.3. Educational Tour**

Each method usually broadens teachers' horizons to new ideas and methods. Aspira College has many Erasmus students. Every year many Erasmus students from all over the world visit Split and study at Aspira for at least a semester. For majority of them it is the first visit to Split. Aspira students organize a real walking tour around Split in order to introduce them to our rich cultural heritage and tradition. Moreover they present our rich gastronomic offer and prepare traditional dishes with the help of gastronomy students. This method moves far beyond the traditional classroom. A true educational tour offers teachers to foster and preserve local culture developing simultaneously communicative competence of their students in a completely new and friendly environment.

## **6. CONCLUSION**

Nowadays, tourism is one of the fastest growing industries in the world, thus it contributes to many countries' economies. The Croatian economy heavily depends upon tourism, which can be explained by its massive development lately. There is a continuous firm longing to enrich the tourist offer and satisfy the tourist demand. In this context, the knowledge of languages, primarily of the English language plays an important part. Nonetheless, English has become an international language and it is considered a lingua franca. Knowledge of the English language is an imperative for any type of jobs in the tourism field. However, a global use of English should not put aside our culture. Protection of our cultural heritage is an indispensable necessity to define and affirm our cultural identity. This paper points out one small but valuable part of the intangible cultural heritage, and that is the Split dialect. Numerous are examples of the words that are easy to translate in English since there is an English equivalent. On the contrary, many words are complex to be translated since there is no one single word or equivalent for that in English. However, there is no need to insist on literal translation since it shows the complexity of our culture. These are words that present tradition that has been transferred from generation to generation, and as such should be preserved. Therefore, this paper emphasizes the importance of preserving and fostering our cultural heritage and tradition, or even only a small part of it as presented here. We aim to ensure the sustainability of our dialectal speech through education, here particularly among students of International Hospitality and Tourism.

Developing their awareness about their cultural identity through the development of their communicative competence, our future employees in tourism will be in charge of promoting our culture to foreign visitors. Teachers should encourage students to meet their objectives through appropriate methods.

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## **BUSINESS CONTINUITY AS A BASIS FOR ASSESSING THE LEVEL OF FINANCIAL RISK OF THE ORGANIZATION**

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### **ABSTRACT**

*This article concentrates on the problems of financial risk management in organizations of the non-financial sector of the economy. The work shows the stages of the financial risk management process within the enterprise, which should include identification of financial risks types, risk level assessment, choice of risk management practices, financial risk management results assessment. A harmonized with world practice classification of financial risks types within enterprises in the non-financial sector is proposed. The authors consider that any financial risks implication is a decline in business profitability, which can lead to business interruption, solvency loss and companies liabilities non-fulfillment to stakeholders. The article proposed the method of financial risk level assessment which based on the business continuity analysis. The use of conservative approach to business continuity assessment is substantiated. From our point of view, process of business continuity assessment includes a number of stages: working capital assessment, current liabilities assessment, net current assets assessment, determination of the threat of business interruption within 12 following months. The peculiarity of business continuity assessment is to determine the composition and the amount of current assets and liabilities. Conservative approach appliance within business continuity assessment requires subtraction of short-term loans to related entities, surplus stocks and accounts receivable, which are most likely will not be paid till deadline from current assets. Current liabilities, in addition to accounts payable, short-term loans and borrowings, reserves for future expenses and payments, etc. include long-term loans with violated covenants. In our opinion, proposed methodology will provide more reliable organization risk level assessment, because it uses management accounting data.*

**Keywords:** *Business continuity, Covenants, Financial risk, Risk assessment, Uncertainty*

### **1. INTRODUCTION**

In all forms entrepreneurial is fraught with numerous risks, including financial. The increasing impact of financial risks on the results of entrepreneurial due to the number of factors, such as market conditions instability, financial relations sphere extension, new financial technologies and tools in international and Russian practice emerging, etc. Heads of enterprises accept uncertainty as an immanent feature of operation climate. This fact makes actual the use of a flexible financial risk management system that can ensure sustainable functioning and stable development of the organization.

Although, according to the research results, nowadays economic subjects not fully implemented risk management mechanisms and tools, which is among other things is due to the gap of opinions among researches not only about financial risk management of organization scope and its assessment method, but also about stages of financial risk management process (Bekker, 2019; Forecasting and definition of risk and its assessment, 2018; Urodovskikh, 2010). The purpose of this article is advancement of the financial risk management of organization assessment methodological framework. The following tasks contribute to the goal achievement:

- To compare main approaches for the content of financial risk management in organization;
- To show various measurement concepts of financial risk management for companies from different areas of economic activity;
- To propose method of financial risk management level assessment based on the business continuity.

### **1.1. Study material and research methods**

The article is based on theoretical analysis and synthesis, abstraction and concretization, deduction and induction, conventional methods of economic analysis, expert estimates, etc.

## **2. CORPORATE RISK MANAGEMENT CONCEPT**

Internationally, risk management defined as identification, assessment and risk development according to the established by organization procedure in order to control and minimize negative outcomes from unforeseen emergencies or maximize the implementation of all opportunities (Chernyavskaya, 2010; Vankovich, 2015). Therefore, the goal of the risk management system is not only to offset the effects of the risk situation occurrence, but also to use the opportunities that arise in this situation. This concept is outlined in the COSO-ERM standard developed by the Committee of Sponsoring Organizations of the Treadway Commission. According to the standard, risk management “allows management to act effectively under uncertainty and its associated risks and use the opportunities, increasing company’s rise in value potential. The rise in value will be maximized if management establishes the strategy and goals in such way that ensures the optimal balance between company’s growth, its profitability and risks; effectively and efficiently uses necessary for organization goals achievement resources” (The Committee of Sponsoring Organizations of the Treadway Commission, 2004).

### **2.1. Stages of financial risk management process in the organization**

In the risk management standards developed by the Federation of European Risk Management Associations (FERMA), the risk management process presented as a part of company’s strategic management for achieving its goals (Risk management standards, 2016). Obviously, financial risk management system formation is an integral part of managing the company as a whole. Management is faced not only with possible risk identification and measures development to minimize their consequences, but also with the level of risk determination that is necessary to obtain the desired profitability and sustainable development of enterprise (Vankovich, 2015). Financial risk-management methods may have differences due to the specific of organization industry classification and its internal policy. Main stages of the financial risk management process are presented in Table 1.

*Table following on the next page*

*Table 1: Stages of financial risk management process*

No	Stage	Stage components	Example
1	Identification of factors impinge on risk appearance	Internal factors	Industry classification
		External factors	Borrowed capital currency
2	Risk assessment	Quantitative assessment	Expert estimates
		Qualitative assessment	Risk-return analysis
			Probability distribution estimation
3	Choice of risk management methods	Reduction	Avoidance
			Limitations
		Maintenance	Localization
		Transfer	Security
4	Financial risk management results assessment	«Plan/actual» analysis	

*Source: Vankovich, 2015, p. 131*

At the first stage of the financial risk management process, types of financial risk to which organization is most exposed are determined.

## 2.2. Classification of types of financial risks of non-financial sector companies

The problem of identifying types of financial risk arises due to the lack of an established consistent classification of risk types in risk management. In the author's opinion, the classification of types of financial risks of non-financial sector organizations should be harmonized with risk classification of world practice, including the experience of GARP - Global Association of Risk Professionals and FERMA requirements (Figure 1).

*Figure 1: Classification of financial risks of non-financial sector companies*

*Source: Bekker, 2019, p. 10*

A number of researchers (Forecasting and definition of risk and its assessment, 2018; Rykhtikova, 2009; Shapkin, 2003; Urodovskikh, 2010) see goal-setting as first stage of the financial risk management process, and second stage is associated with the identification of types of financial risk. At the goal-setting stage, an acceptable level of risk is determined, that is, the level that the organization is ready to take over in carrying out its activities. This stage is necessary for understanding whether the company is ready to bear the costs of risk-hedging or not. At the same time, hedging is only one of the risk management methods, therefore this stage can be carried out after risk analysis. In the COSO-ERM risk management standard, an assessment of an acceptable level of risk is defined as the level of risk appetite: "management evaluates risk appetite (the risk that the organization is ready to take) at the stage of choosing from strategic options while goal-setting, which corresponds to the chosen strategy, as well as when mechanisms for managing associated risks is developing" (The Committee of Sponsoring Organizations of the Treadway Commission, 2004). The goal of the second stage of risk management is to provide company's management with necessary decision-making information regarding the development of protection ways from possible negative financial consequences of risk appearance.

At the risk assessment stage, information about features of activities of the enterprise is collected and analyzed, as well as about the financial assets structure and other data. Information base framework for assessing financial risk is management accounting data: financial reporting, budgets, financial and production plans. The stage of risk assessment includes two stages - a qualitative and quantitative risk assessment.

### **2.3. Key approaches to quantitative assessment of organization financial risks**

Quantitative assessment results serve as source data for quantitative analysis conduction, during which numerical values of each risk value individually and risks of the enterprise as a whole are determined. There are many varied quantifying risk methods that fairly fully represented in the scientific literature. Methods for quantifying risk are many and varied, and are fairly fully represented in the scientific literature. Within the framework of this study, it should be noted that the concepts of value at risk (value at risk - VaR, cash flow at risk-C-FaR, NERA methodology) are widespread among enterprises in the financial sector of the economy, but they are also used by non-financial commercial enterprises, which have most of assets as nonliquid. These risk assessment methods cater to the needs of external investors and shareholders, but don't provide information for internal financial risk management in an individual company. The authors consider that consequence of any financial risk presented in Figure 2 is a decline in business profitability, which may ultimately lead to the business interruption. A high level of uncertainty caused by macroeconomic instability increases the likelihood of risk events, the negative impact of which threaten the business interruption, loss and companies liabilities non-fulfillment to stakeholders. Therefore, from the author's point of view, determining the level of financial risk is based on an assessment of business continuity.

## **3. BUSINESS CONTINUITY AS FINANCIAL RISKS SOURCE OF GENERATION**

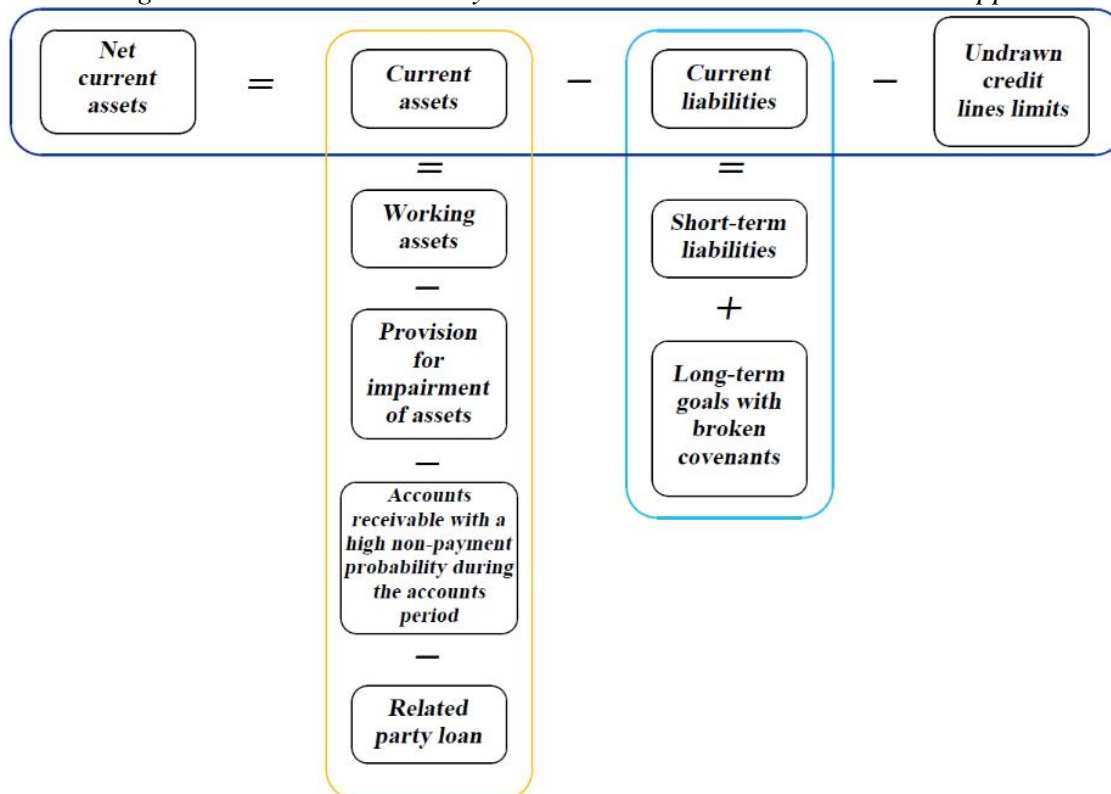
Business continuity is refers to the implementation of financial and economic activities by an organization for at least 12 months after the reporting date, without the intention or need for liquidation, termination of financial and economic activities or filing for bankruptcy protection. Continuity assessment traditional approach is to compare of current assets with current liabilities. A positive value indicates the organization's ability to cover short-term liabilities with current assets (Gerasimova, Redin, 2014, p. 34).

### **3.1. Business continuity assessment based on a conservative approach**

The authors consider it useful to use a conservative approach of business continuity assessment in organizations while determining the composition and amount of current assets and liabilities (Figure 2). The need for a conservative approach is due to the market conditions instability.

*Figure following on the next page*

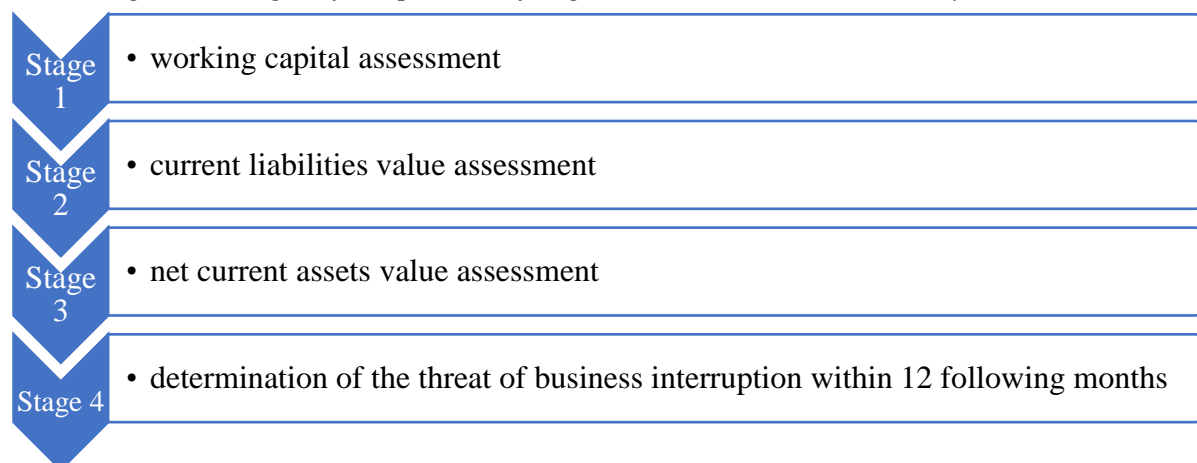
Figure 2: Business continuity assessment based on a conservative approach



### 3.2. Assessment algorithm of organization business continuity

The process of organizations business continuity assessment, from author's point of view, includes a number of stages (Figure 3).

Figure 3: Stages of the process of organizations business continuity assessment



The first stage of business continuity assessment process of an organization involves a detailed assessment of working assets composition, their quality and degree of liquidity. Special attention should be paid to such categories as “inventories”, “trade receivables”, “advances paid” and “short-term financial investments” (Order of the Ministry of Finance of Russian Federation dated December 10, 2002 N 126n (as amended on April 6, 2015) “On approval of the Accounting Regulation“ Accounting for Financial Investments” PBU 19/02”, 2015; Order of the Ministry of Finance of Russian Federation dated July 29, 1998 N 34n (as amended on



April 11, 2018) “On the Approval of the Regulations on Accounting and Financial Reporting in the Russian Federation”, 2018; Order of the Ministry of Finance of Russian Federation dated June 9, 2001 N 44n (as amended on May 16, 2016) “On approval of the Accounting Regulation“ Accounting for inventories ”RAS 5/01”, 2016). Conservative approach implementation to business continuity assessment of an organization requires subtraction of short-term related party loans, value of surplus stocks and amount of accounts receivables, which are most likely will not be paid till deadline from current assets. The next step business continuity assessment of an organization is to define the amount of current liabilities, which traditionally include accounts payable, short-term loans and borrowings, reserves for future expenses and payments, etc. However, it needs to make sure that, in addition to the listed repayment of liabilities requirements, other liabilities will not be presented to the company in the next 12 months. When organizations appeal to lending agency in order to attract external sources of financing, the practice of covenants is widely used. The purpose of applying covenants is to monitor the potential borrowers’ financial status until the date of issued funds repayment. The selection of covenants for each corporate borrower is carried out individually. The authors propose an analysis of information and financial covenants implementation under loan agreements with a period of use that more than one year after the reporting date period of use (or settled for analysis) date. In case of identification of non-fulfillment of covenants of long-term loans, it is necessary to assess the consequences of violating, namely, whether they entail the right of the credit institution to discontinuance of payments on credit lines and loan collection. Such liabilities need to be classified as short-term and taken into consideration while business continuity assessment. If company plans to fulfill long-term liabilities over the next twelve months, then these liabilities should be assessed as current. At the third stage of business continuity assessment, it is necessary to calculate the net current assets as the difference between current assets and liabilities. A positive value of the indicator will mean that there is no threat of the business interruption within the next 12 months. However, a negative value will not always indicate the opposite, since business continuity assessment requires taking into account the company's ability to raise borrowings within undrawn credit lines limits signed before the reporting (or analyzed) date, with a period of use of one year or more. The presence of undrawn limits is a significant factor in maintaining business continuity, since the use of such limits allows make up for short fall of funds. Thus, the proposed approach based on the business continuity assessment allows to implement a detailed analysis of financial risks existence and amount of the organization and to determine the possibility of business interruption during the researched period. Analysis results of the business continuity of the organization are baseline for decision making aimed at prevention of adverse events and minimization of their negative impact on the company.

#### **4. ESTIMATION OF GROUP OF COMPANIES BUSINESS CONTINUITY**

To illustrate the application of the methodology for business continuity assessment is Russian diversified group of companies (henceforth Group), which provides services in the areas of logistics, auto retail and car service. According to accounting policy of Group, the amount of working assets is adjusted by the amount of reserves for decreases in the value of stocks of material asset and devaluation of financial investments. Therefore, when calculating the value of current assets, it is not necessary to deduct allowance for impairment. Analysis of accounts receivables revealed that Group has amounts owed from the counterparty, consistently disrupting deadlines of repayment. This debt has not yet been reserved, since the length of the period since the provision of services has not yet exceeded the period established in the accounting policy for the reservation of this debt. However, there is a high probability that the debt will not be repaid by the deadline. Furthermore, Group also has accounts receivables for three counterparties, which are partially reserved but not yet impaired.

Both values indicated must be taken into account when business continuity of the Group will be calculated. Short-term loans issued by the Group to related entities as at December 31, 2018 amounted to 8,765 thousand rubles. For the analysis, data were collected and summarized information about received by the Group loans, with restrictions imposed by credit institutions in case of each financial indicator (table 2). All loans of the Group, according to the concluded contracts, are long-term. For convenience, in table 2 each bank was given a sequence numbers. Principal debt understood as loan value (principal of the loan) and its accrued interest.

*Table 2: Financial covenants of the Group, 2018*

Bank No	Principal debt as at December 31, 2018	Financial covenant description
1	78 136	Implement financial investments outside the Group (providing financing backing to companies that are not members of the Group), lending to companies not belonging to the Group, in an amount no greater than 16,500 thousand rubles in total.
2	12 456	Ensure the fulfillment of ratio Net debt / EBITDA no greater than 3.5
3	38 650	Ensure a positive net assets value of the Group. Testing is carried out quarterly on the basis of the financial statements of the Group according to the Russian Accounting Standards (RAS).
4	36 500	Ensure the implementation of the following conditions during the term of the Agreement: The value of the Group's net assets at each reporting date in accordance with Statement of Financial Position must be no less than its authorized capital.
5	103 598	Ensure the fulfillment of ratio Net debt / EBITDA no greater than 4
6	40 300	Ensure the implementation of the following condition by the Group: the size of the Group's financial investments at each reporting date (year, quarter) in the consolidated financial statements must not exceed 20,000 thousand rubles.
7	66 085	Ensure the compliance of a positive indicator of profitability during the term of the Agreement, for the last 4 quarters.
8	65 170	Ensure the implementation of the following condition by the Group: the ratio of the Group's owners' equity to assets no less than 0.12
9	60 044	Ensure the implementation of the following condition by the Group: the value of the "Financial Investments / Equity" indicator, calculated on the basis of the consolidated financial statements of the Group must not exceed 1.4
10	25 683	Ensure the implementation of the following condition by the Group: the value of the indicator "Equity/ Intangible assets" calculated on the basis of the consolidated financial statements of the Group should not be less than 1

Let's find out the implementation of financial covenants by the Group. According to the financial statements, the financial investments of the Group equals 13,939 thousand rubles, which do not exceed the amount, set by Bank No. 1 and Bank No. 6 in financial covenants. The net debt / EBITDA ratio is 3.58. The Group violated the Net Debt / EBITDA ratio established by the agreement with Bank No. 2. Violation of this financial covenant entails the emergence of Bank No. 2 the right to early call of funds issued through a credit line to the full extend (12,456 thousand rubles).

For this reason, it is necessary to reclassify this loan from the category “long-term” to “short-term”. Amount of the net assets of the Group is 179,839 thousand rubles. The value of the net assets of the Group surpassed the authorized capital by 168,238 thousand rubles. The level of business profitability, calculated as the ratio of net profit and revenue, is 4%. The “Equity / Assets” ratio for the Group is 0.19; “Financial investments / Equity” - 0.08; “Equity / Intangible assets” - 3.6. Thus, all financial covenants except of covenant No. 2 are fulfilled. Undrawn credit lines limits open until December 31, 2018 with a period of use of more than one year equals 128 529 thousand rubles. Business continuity assessment results of the Group are presented in table 3.

*Table 3: Business continuity assessment of the Group, 2019*

Indicator	Value
Working capital	328 996
Accounts receivable with a high non-payment probability during the accounts period (accounts receivable not recognized as doubtful - not reserved)	-3 485
Doubtful, but not impaired debt (partially reserved)	-6 488
Loans to affiliates	-8 765
Current assets	310 258
Short-term liabilities	-380 865
Long-term goals with broken covenants	-12 456
Current liabilities	-393 321
Undrawn credit lines limits signed until December 31, 2018 with a period of use of more than one year	128 529
Net current assets	45 465

Business continuity assessment results of the Group allow leads to the conclusion that on account of current assets calculated in accordance with the conservative approach and undrawn open credit lines limits, the Group is able to repay all short-term liabilities. Thus, as a result of the assessment, the risks of business interruption were not identified. The level of financial risk of the Group can be considered insignificant.

## 5. CONCLUSION

In general terms, the risk management task can be defined as the development and implementation of an integrated solution aimed at minimizing the impact of adverse events that could harm the organization and use the opportunities of the risk situation to maximize profits. The negative consequences of financial risks pose a threat to the business interruption, therefore, determination of financial risks level, it is advisable for top management of organizations to provide business continuity assessment.

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## MANAGEMENT AND MARKETING AS PROGRESS GENERATORS IN NON-PROFIT SPORTS ORGANIZATIONS

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### **ABSTRACT**

*In a complex and dynamic environment in which they operate today, modern non-profit sports organizations are aware that success of the organization can be achieved by applying professional, responsible and highly effective management. Such management means successfully allocating and using all available resources, coordination of all activities with the aim to successfully complete the mission of the organization. At the same time it is very important to continue providing the character of a non-profit organization which is public service on a non-for-profit basis. In order to achieve its effectiveness, modern non-profit organizations use sports marketing as a generator of the progress. Sports marketing covers all aspects of marketing within the sports business of a non profit organization: that means inclusion of management, products, promotion, distribution, price and customer relationship management of their products and services. The fundamental objective of sports marketing activities is to meet the needs of users in relation to competition. Therefore, sports marketing is one of the key generators of the business success of a non profit sports organization.*

**Keywords:** *Non-profit sports organization, Management, Marketing, Efficiency, Competition*

### **1. INTRODUCTION**

The intention of this paper is to point out the exceptional importance of implementing management and marketing in the life and work of today's sports non-profit organizations. In order to be competent and effective in today's global and rapidly changing environment, non-for-profit sports organizations must abandon a relaxed and outdated ways of operating and focus on raising the level of professionalism and quality of their management. a modern environment, under the rapid and continuous change in global environment action of global influences, sports in non-profit organizations must abandon relaxed ways of working, and focus on the market where it will be competent and effective, raising the level of professionalism and quality management. As an important sphere of human activity, sports produce a significant social and economic impact; moreover, sports have deeply infiltrated in all aspects of economy and vice versa, economy and business have also taken over sports, both in for-profit and non-profit organizations. Although the primary motive of non-profit organizations is not that of a for-profit business nature, however economic value is extremely important factor of survival as well as compliance with social needs and social values. Achieving goals without linking all resources to the management process today is impossible. Therefore, there is an increasing need for the use of knowledge, skills and competencies of management that will contribute to the management and development of sports non-profit organization towards achieving their goal. In addition to the management, marketing imposes itself as an important and unavoidable factor of development without which the life of a modern sports organization is unthinkable. "Sport, based on the thinking of eminent experts, includes not only activities but also business

entrepreneurship, for-profit but also non-profit, focused on recreation, kinesitherapy, competitive sports, science and education and leisure" (Novak, 2006:22). That is why marketing as a concept has become an extremely important factor today. Non-profit sports organizations are an integral part of all sub-areas of sports and without effective marketing they cannot survive in the market. Being more innovative, faster, better, efficient, and adaptable are all components of marketing that will help a non-profit sports organization to gain competitive advantage. be better in the market competition. In the world of sports this means more audiences, greater customer satisfaction and greater need for their products and services which drives the organization to progress and achieve better results, both in sports and business. The future of non-profit sports organizations lies in a wide range of opportunities to apply modern business concepts, models and techniques that would guide the organization towards successful operations. Both sports management and sports marketing have tasks to bring about quality accomplishments, sports results, create social change, achieve economic success, and improve business in all segments, therefore extensive activities in sports management and marketing represent generators of progress in non-profit sports organizations.

## 2. DEFINITION OF NON-PROFIT SPORTS ORGANIZATION

A non - profit organization can be defined as a legal entity established for the purpose of realizing a certain public, general or common interest of individuals, groups of citizens or the wider community, with no emphasis on making a profit or acting on a market basis (URL: <https://www.poslovnih.hr/kako-su-uspjeli/neprofitne-organizacije> (accessed: 01.03.2020.)). In the Republic of Croatia, a large part of sports organizations operates as non-profit sports associations or sports clubs and are established to perform sports activities prescribed by the existing Sports Act of 2006. Sports associations that perform sport activity of participating in sports competitions are declared by the Sports Act (NN 71/06) as sports clubs - associations for competition. Sports clubs - competition associations must have in their name the words "sports club" or in front of the word "club" the name of the sport in which it operates. In addition to the Register of Associations and the Register of Non-Profit Organizations, the club must also be registered in the Register of Sports Activities. The status of non-profit organizations is non-profit, which means that their primary goal is not to make a profit, but to meet the needs / interests of the wider social group. In accordance with the legal provisions, the excess income is directed to the primary activity, reinvested and not distributed to the founders or individuals who control and manage the organization. Beech J. and Chadwick S. (2010) state that non-profit sports organizations can be categorized in several ways: "Kikulis (2000) provides two useful definitions of a non-profit sports organization determined by specific criteria. One of them is a clear and simple sports organization - "kitchen table". Sports organizations of the "kitchen table" model are so named because most decisions regarding the organization and administration are made around the kitchen table or something similar. In contrast, sophisticated sports organizations, known as "director offices," can be defined by the following characteristics:

- Organization design determined by structures and systems;
- Several professional employees with specific roles;
- Volunteers have certain roles;
- Extensive plans, rules and programs;
- Decision-making is entrusted to professionals with reduced volunteer participation "(Beech and Chadwick, 2010:203).

Today, non-profit organizations can also perform economic activity if they are registered for it. It is important to emphasize that if a modern non-profit sports organization is proactive,

professional, well managed and marketed, adaptable to the fast-paced global sports industry environment, it has an opportunity to create additional value in the marketplace.

### **3. MANAGEMENT IN THE SERVICE OF PROGRESS OF A NON-PROFIT SPORTS ORGANIZATION**

Quality management, by its function, is responsible for establishing the effective functioning of organizations in all areas of society, including sports, regardless of whether it is a for-profit or non-profit sector. "Today it is known that non-profit organizations achieve excellence and achieve their social mission when management effectively performs its activities, is when the management process takes place in a planned, systematic and efficient manner. Successful management of non-profit organizations means strategically planning the development of the organization, building an appropriate organizational structure, responsible and professional management of the organization and management of employees and volunteers, but also quality measurement of results " (Marić, 2018: 150). Sport, as one of the fastest growing activities of this century, is experiencing constant and rapid change on a global scale, and one of the most important roles of management is embracing change. The complexity of today's dynamic market forces non-profit sports organizations to form business relationships and operate in an environment driven by classic commercialization, which is actually a characteristic of a for-profit organization. Therefore, a non - profit sports organization, regardless of the fact that profit is not its primary goal, suddenly operates in a for - profit world in which it needs to harmonize its social and economic role. Marić (2018: 134) further states that the role of management in the field of non-profit sector and non-profit organizations is unavoidable for several reasons: high market demands, dynamics of the modern environment, responsibility to society, needs and consumer demands. Marić states that all of the above imposes the need for systematic and planned management based on practical experience, but also a measurable and scientific approach. Non-profit organizations, just like for-profit ones, must understand the importance of quality management for successful business and ensure the development of the organization and business improvement by developing knowledge, skills and competencies of managers, promoting and adopting new knowledge and building learning organizations. Bartoluci (2003) says that introducing management into a non-profit sports organization will strengthen and add value to its core mission. He says that a manager in sports is defined as an "organizer, manager of a sports and business organization whose goal is to achieve certain sports and business results "(Bartolucci, 2003: 155). In the Croatian reality, sports management is still undefined and definitely is not a product of systematic guidance, nor the legal framework. The very role of the manager in sports is clumsily and completely wrongly defined by the Sports Act and requires changes. According to the Sports Act (2006), Article 12, a manager is defined as a person who, according to the rules of the national federation, is authorized to mediate the transfer of athletes from one sports club to another sports club. With such a poor definition, a number of problems arise, including the fact that staff from other fields with insufficient or no knowledge of sports come to the positions of managers in sports, which often results in poor and inefficient management of the sports organization. Croatia lacks sports managers with specific knowledge and competencies, and thus quality, proactive management: "Employees in Croatian sports organizations are" usually managers who come from politics, economic activities, etc., who are usually not qualified to lead sports. "(Bartoluci, Škorić, 2009: 127). Given the importance of management in achieving goals, it is necessary to change the definition of a manager in sports, within Croatian law. The definition of a sports manager needs to be adapted it to its real meaning, while offering and establishing adequate education which will emphasize the importance and need for management education that will generate development, progress and efficiency to serve non-profit sports organizations.

#### **4. MARKETING IN SPORTS**

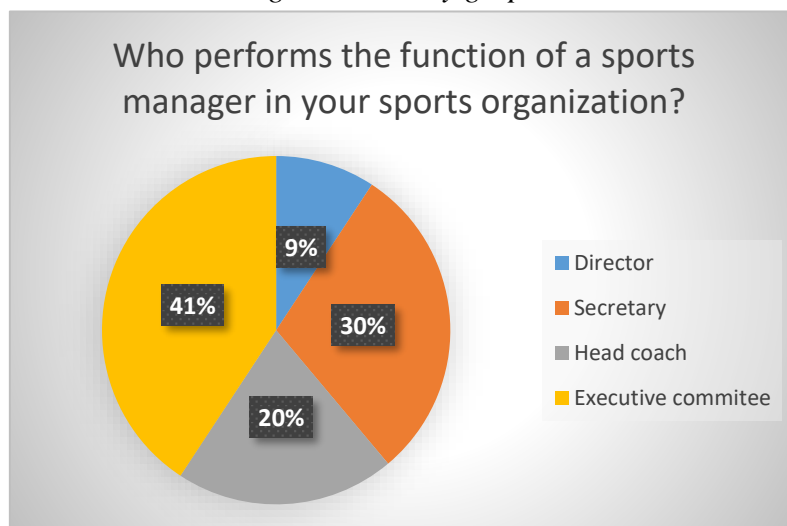
Sports marketing in non-profit sports organizations should be an integral part of sports management. Management without the help of a marketer is certainly not able to make the good and top results that every serious management strives for. Marketing refers to the planning and research of the market, product planning, sales, distribution, sales promotion, selection of prices and services, promotion and as such under the influence of global market changes constantly evolves. Unfortunately, in many non-profit sports organizations, scarce knowledge about marketing and its use still prevails. Donation grants and appearances in the media are often considered as marketing activities, without concrete and quality marketing plans that would achieve the progress of the organization. Bartoš (2012) states that modern sports is characterized by a high degree of commercialization and professionalization, with the constant emergence of new trends that pose new challenges to sports organizations. He says that to stay competitive, sports organizations must constantly research new technologies, laws, and relationships. There would be no professional sport today without marketing and sponsors. Marketing in sports is unavoidable and extremely important, without it there is no progress and in fact it is the only way for the survival of the organization, everything else is an element without a goal and a future. To succeed, an organization needs to find ways and means to implement it in the space in which it operates. In non-profit sports organizations, marketing should use their recognizable specifics and direct their activities towards social responsibility, importance for the nation, its health, social integration, morality, sense of belonging, national pride, reputation, affirmation and values of social interest. At the same time, to build the progress of the organization, to emphasize it, to make it noticeable and sought after. A non-profit sports organization should present its mission and goals to the public, send a clear message through marketing and attract target groups interested in their activity. "If I believe that something is good, my enthusiasm will convince everyone of the same. The product is not sold alone, it is sold by the seller's faith and his determination. There is no object or idea that cannot be exchanged for money", is the famous statement and basic philosophy of Ray Krock, who built one of the largest corporations in the world, one of the largest sponsors in the world of sports, from the restaurant of the unambitious McDonald brothers. This must be the guiding idea of all non-profit sports organizations as it shows how much the faith and enthusiasm of sports staff, with the help of marketing tools, can help the overall satisfaction of all factors. Marketing in sports is very specific and unique for every non-profit sports organization, so it is not applicable to each organization in the same way, no matter how much some sports organizations have engaged in almost identical activities. The reason for this lies in the multitude of different elements that affect the application of marketing such as consumers, distribution channels, competitive, the environments in which they operate, and for these reasons are specific to each organization. Equally, it can be said that sports marketing is additionally specific because services in sports differ from services in some other branches of the economy. A very interesting feature of sport is emotion, spontaneous natural activity, a multitude of unpredictability and inconsistency at different events. In the end, what distinguishes sport from all other activities is the sports result, a measurable unit, the goal of all sports organizations. Novak (2006) therefore believes that marketers are really faced with the specifics offered and imposed by the very nature of sports and sports activities and that marketing in sports is unique because of the specifics of marketing activities due to sports being special, interesting and unpredictable. "Sports marketing meets the basic criteria of the concept of marketing - as a business concept, business function, economic process and scientific discipline." (Novak, 2006: 223).



## 5. SURVEY RESULTS

In order to show the importance of encouraging education on management and marketing as necessary factors of development in non-profit sports organizations, a survey was conducted among non-profit sports organizations in the Republic of Croatia in which 54 respondents-administrators of clubs were interviewed.

*Figure 1: Survey graph 1*



*Source: Authors*

When asked who performs the function of manager in a sports non-profit organization, 41% answered that it is the Board of Directors, 30% answered that they are secretaries, 20% think that coaches perform the function of manager and only 9% think that state directors perform as managers.

*Figure 2: Survey graph 2 - The importance of management in the business of a non-profit sports organization*



*Source: Authors*

The graph shows that the largest number of respondents agreed with the statement that management is a key factor in the business of a sports organization, which shows awareness of the need and importance of the function of management.

*Figure 3: Survey graph 3 - The role of marketing in a sports organization**Source: Authors*

When asked about the role of marketing in a sports organization, 56% of respondents answered that marketing is by collecting donations, while for 26% of respondents marketing is in small sponsorships of domestic brands. The results of the survey lead us to the conclusion about the importance of educating staff in sports. Encouraged by the results of this survey, we saw where the problems are in the management of non-profit sports organizations. Given that the results show disorientation in new circumstances, new ways and models of management of non-profit sports organizations, it is crucial to establish a system of education of existing and new staff. Where boards perform the function of managers, and the survey shows that this is the practice in 41% of sports organizations, where 56% of respondents consider marketing to be a collection of donations, no significant progress or good results can be expected. Today, it is impossible to manage sports organizations in a quality way through management boards composed of volunteers who meet a maximum of once a week at the level of the kitchen table. Non-profit sports organizations are looking for new, faster and more efficient ways of management, the use of new marketing tools, and that is why knowledge and education in sports management is necessary.

## 6. CONCLUSION

The synergy of management and marketing as a generator of progress in non-profit sports organizations may sound like something general and extensive. But these two areas represent generators of progress because everything indicates that the time of relaxed activity and business of non-profit sports organizations has definitely passed. Certainly, we should not ignore the fact that many sports organizations are financed by budget funds (state, regional and local), is taxation of citizens, so they bear a special type of responsibility, and have the duty and obligation to constantly improve their business to achieve optimal balance between invested resources. and achieved goals. (Papić). Due to all the above, the survival, development and progress of non-profit organizations depends on the synergistic action of proactive management and well-planned marketing. Therefore, it is necessary to systematically and strongly approach the education and inclusion of trained staff for specific knowledge of sports management and marketing in all sports organizations with special emphasis on non-profit that "cries out for knowledge" in order to successfully fight for competitive advantage in today's market. The ignorance of management and marketing is devastating. The sport is advancing by leaps and bounds and is changing globally at lightning speed.

At this time, the world is experiencing the cancellation of the Olympics due to force majeure, the threat of infection with the Covid-19 virus that has ravaged the entire world. Sports and athletes are in the shadows, and all the highlighted cancellation issues are related to marketing losses. Sports management and marketing have a key role in creating the business life of sports non-profit organizations because they create opportunities for new sports and business achievements. Management and marketing are generators of development in non-profit sports organizations, a basis for progress and a real necessity. Moreover, they add value along with professionalism and business efficiency, but still keep the essence of a non-profit sports organization, which is public social interest.

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## RELEVANT FACTORS INFLUENCING CONVENTION ATTENDEES' BEHAVIOURAL INTENTIONS - LITERATURE REVIEW

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### ABSTRACT

*The history of tourism shows a consistent progression from sporadic travels to mass migrations with logical diversification and dispersion into special and individual forms, types and subtypes of tourism. In the second half of the twentieth century, business tourism started to emerge as a growing segment of tourism. Conventions, as a significant segment of the business tourism, contribute to the economy by creating new jobs, attracting investments and by bringing many other financial as well as non-financial benefits to the host destination. To enjoy such privileges, the convention organizers (meeting planners) must operate in a very competitive environment, fighting aggressively for each attendee. Their biggest challenge is to increase the number of convention attendees by adequately responding to the demands of planning future events, making them suitable and attractive to potential attendees. Due to the growing number of various conventions and the attendees' financial constraints, the average number of attendees in an individual convention is decreasing. Therefore, the meeting planners are becoming increasingly concerned about the strategies used for continuously attracting attendees to their conventions. A great number of research has been conducted from the perspective of the meeting planners, especially on the issues related to the choice of convention destination. Since the number of attendees is the main predictor of the convention success, this paper presents the findings of the conducted literature review which covers the research carried out from the perspective of convention attendees. Unlike other literature reviews which focused only on factors related to the convention evaluation, this paper summarizes the variables significant for the convention evaluation that could predict convention attendees' behavioural intentions. Behavioural intentions are built on the concept of attitude formation which is why a certain behaviour is likely to affect the convention success. Listing the most relevant variables which have an influence on convention attendees' behavioural intentions will provide significant conceptual support for future researchers who want to understand attendees' needs when making a decision about attending an upcoming convention.*

**Keywords:** *Behavioural Intentions, Business Tourism, Convention Tourism, Literature Review, Attendees*

### 1. INTRODUCTION

Over time, some new ways of spending leisure time have emerged, along with some new types of work, with globalization creating an even greater need for spreading commercial and industrial knowledge thus stimulating the growth of business travels (Marques and Santos 2017). Business tourism, as a specific form of tourism which is based on meetings with a working and tourist aspect, is becoming increasingly present in the world tourism trends and as such significantly participates in the overall tourist traffic of a particular country. Its particularities manifest in the characteristics such as higher attendees' consumption, the reduction of seasonality, interaction with other economic activities, the destination image creation as well as in many other features. The economic benefits of the business tourism can be seen especially when looking at the consumption of the attendees and the organisers which is different in structure than the consumption of traditional tourists. Exactly this type of demand requires a high-quality tourist offer of business tourism.

For the organisers of business events who are responsible for attracting attendees, it is important to increase the number of attendees participating in meetings and conventions by adequately responding to the demands of planning future events with making them suitable and attractive to potential attendees. The organisers must be aware of the different attendees' needs in order to be able to increase their number and to find a way to turn the potential attendees into future and satisfied convention attendees. This is what encouraged the author to analyse the literature published in the field of convention tourism which previously identified all the factors that affect the attendees' behavioural intentions. The literature review covers all publicly available published papers on this topic which in their research list the variables used for the convention evaluation. Unlike previous research (Jung & Tanford 2017), this paper puts the emphasis on the variables used for the convention evaluation which influence convention attendees' behavioural intentions.

## 2. BENEFITS OF CONVENTION TOURISM

Along with the development of business tourism market research, and in order to emphasize its economic relevance for the destination in which it takes place, the term meeting industry is often used (Cieslikowski 2014: 8). Tourism in many countries plays an extremely important role in the economy. However, the existing tourism statistics cannot grasp its full economic importance and influence. The lack of an appropriate economic evaluation of tourism often results in the underestimation of tourism benefits, especially in comparison with the ones of the economic sectors. When measuring the economic effects of tourist consumption, the multiplier effects must be included (Rogers 2008: 72). There are different multipliers which affect the level of consumption. The multipliers that need to be considered when it comes to convention tourism are the following (Lucianović 1980: 26):

- Income per attendee: relatively high consumption can be connected with the gatherings where its attendees have higher incomes. This is especially true for business meetings of various companies where the total daily consumption per attendee is far higher than that of many other meetings;
- Choice of the location: the level of consumption will be far higher in a tourist destination which offers more amusing and entertaining activities than in the destinations which have no such offer. The level of consumption also depends on the distance between the venue and the city;
- Familiarity with the location: the more the attendees are familiar with the destination and its attractions, the less money they will spend on them, while they will spend more on visiting various restaurants, bars and other places for entertainment where the possibility for higher consumption is quite high;
- Number of participations: if one often participates in various gatherings its consumption will be lower than of the one who goes to a meeting, for example, only once a year;
- When international gatherings are in question, the consumption will depend on the attendees' purchasing power and the price of services at the destination where the convention is being held;
- Type of meeting: a large number of different gatherings is organized so as to enable the attendees to get to know each other as well as possible which is the reason why the organizer pays attention to include various parties, excursions and alike in the program. In addition, the organizer provides them with the right amount of free time. At such gatherings, the consumption per attendee will be far higher than at another gathering with a strictly working character;
- Business gatherings build the profile of individuals as well as of their organizations, improve sectoral knowledge, collect expertise and provide opportunities for professional development, attract media coverage and encourage international cooperation.

Knowledge creation is being increasingly dependent on the collaboration which relies on friendship, trust, and relationships built in a face-to-face communication. Business events function as platforms for physical interaction and represent a fundamental network which encourages collaboration and innovations.

Despite the fact that there are numerous benefits of face-to-face gatherings from a psychological perspective which have considerable advantages over other forms of communication (Davidson 2019, 5), the development of live video streaming technologies and the use of social networks have led to a decrease in the number of business meetings attended annually. It is therefore not surprising that the organizers of such gatherings operate in a highly competitive environment, fighting aggressively for the attendees. Due to the increasing number of different conventions and the attendees' financial constraints, there is a decrease in the average number of attendees at individual conventions, so the organisers are becoming highly concerned about the strategies used for continuously attracting attendees to their business gatherings. In order to do so, they must understand their behavioural intentions and identify significant variables which have an impact on them.

### **3. AN OVERVIEW OF THE VARIABLES CRUCIAL FOR THE CONVENTION ATTENDEES' BEHAVIOURAL INTENTIONS**

For a long time, researchers from different social science disciplines have been interested in studying the way individuals make their buying decisions. There is a general agreement that understanding consumers' decision-making process is crucial for explaining and predicting their buying behaviour. In the tourism literature, a significant number of researchers (Lee, Lee & Choi 2011; Rittichainuwat, Beck & LaLopa, 2001; Severt et al. 2007) have studied the decisions of individual tourists, focusing in particular on the processes of choosing the destination. Many of these studies were based on consumer decision-making models. Similar concepts are also applied to the convention tourism. A review of the literature suggests that much of the attention has been paid to the perspectives of meeting planners, especially regarding the issues related to the choice of convention destination. On the other hand, there are several papers (Severt et al. 2007; Opperman, Chon 1997; Yoo & Zhao 2010; Mair & Thompson 2009; Kim, Lee & Kim 2012; Zhang, Leung & Qu 2007; Mair, Lockstone-Binney & Whitelaw 2018; Rittichainuwat, Beck & Lalopa 2001; Yoo & Chon 2008) which explored the perspective of convention attendees with the use of variables related to making a decision about convention participation and convention evaluation. Previous research has shown that the satisfaction with the convention destination, but also with the quality of the convention itself and the perceived emotional, social and functional component of the convention influence the convention attendees' behavioural intentions (Kim, Lee & Kim 2012). Highlighting the significance of the mentioned convention components and using the statistical analysis methods for their calculation, result in increased business efficiency and competitiveness for the organizers of business events, but also for the destination of business events itself. From the aforementioned stems the need to analyse in detail the variables used to examine how to attract convention tourism attendees and to single out the most influential ones in order to help future researchers, but also convention tourism organizers.

#### **3.1. Literature review of the convention-specific dimension variables**

In the convention tourism literature, professional education and social networking are considered to be the key aspects of the convention-specific dimension because they are influential motivating factors for the convention attendees. The research analysed below show that the attendees are mainly motivated to participate in the convention by the opportunity to expand their social network, make business contacts, keep up with the trends, to gain new

knowledge and ideas. Such business gatherings provide the attendees with a sense of not being excluded or isolated from the business community but instead of being connected with it. Therefore, individuals choose conventions which are in accordance with their professional goals and their desire for new findings. The most common variables used to examine professional and social networking are: meeting new professionals, meeting like-minded people, peer recognition, building professional relationships, seeing the people I know in my field etc. The table below is a representation of all research and variables used to assess social and professional networking opportunities.

*Table following on the next page*

*Table 1: Social and professional network opportunities variables*

Professional and social networking opportunities	Oppermann, M., & Chon, K.-S. (1997)													
	Rittichainuwat, B. N., Beck, J. A., & Lalopa, J. (2001)													
	Severt, D., Wang, Y., Chen, P.-J., & Breiter, D. (2007)													
	Zhang, H. Q., Leung, V., & Qu, H. (2007)													
	Yoo, J. J.-E., & Chon, K. (2008)													
	Mair, J., & Thompson, K. (2009)													
	Yoo, J. J.-E., & Zhao, X. (2010)													
	Malekmohammadi, A., Mohamed, B., & Ekiz, E. H. (2011)													
	Tanford, S., Montgomery, R., & Nelson, K. B. (2012)													
	Kim, S., Lee, J.-S., & Kim, M. (2012)													
	Lee, J.-S., & Min, C. (2012)													
	Ryu, K., & Lee, J.-S. (2013)													
	Mair, J., Lockstone-Binney, L., & Whitelaw, P. A. (2018)													
	Aktas, G. Demirel, B. (2019)													
Professional advancement								x				x		
Professional networking opportunities		x	x				x	x	x					
Developing professional network					x					x	x	x		
Professional contacts	x				x		x						x	
Renewing business contacts									x					
Developing contacts for academic cooperation														x
Building professional relationships								x						
Having personal interaction								x						
Feel a sense of a global community	x					x	x	x					x	
Making new friends						x			x				x	
Meeting new professionals						x							x	
Meeting old friends						x							x	
Meeting like-minded people						x		x					x	
Seeing people I know in my field					x		x							
Meeting with important peers in the related area														x
Socializing with peers														x
Peer recognition	x				x		x	x		x	x	x	x	x
Personal interaction with colleagues or friends	x				x	x		x						
Generating new business						x			x				x	
Career opportunities							x							
Job opportunities				x										
Seeking employment									x					
Involvement with the association	x				x	x	x		x				x	
Social functions at the convention expanded my networking with others										x	x	x		
Employer funded					x								x	
Escape from routine					x									

*Source: Author's analysis*

The following research (Oppermann 1998; Severt, et. Al. 2007; Yoo and Chon 2008; Lee, Kim and Lee 2012) show that the attendees were motivated to attend the convention by the opportunities to develop professional and social networks, expand professional contacts, to keep up with the changes in their profession and to acquire new knowledge and ideas. Rittichainuwat et al. (2001) and Yoo and Chon (2008) emphasized the importance of



networking and convention factors, such as the topic and conference quality, and believed that networking is one of the most important reasons for attending conventions. They also pointed out that the presence of respected speakers and the convention quality increase the number of attendees. The research below used the following variables among the participants to examine the educational opportunities.

*Table 2: Educational opportunities variables*

Educational opportunities	Oppermann, M., & Chon, K.-S. (1997)														
	Rittichainuwat, B. N., Beck, J. A., & Lalopa, J. (2001)														
	Severt, D., Wang, Y., Chen, P.-J., & Breiter, D. (2007)														
	Zhang, H. Q., Leung, V., & Qu, H. (2007)														
	Yoo, J. J.-E., & Chon, K. (2008)														
	Mair, J., & Thompson, K. (2009)														
	Yoo, J. J.-E., & Zhao, X. (2010)														
	Malekmohammadi, A., Mohamed, B., & Ekiz, E. H. (2011)														
	Kim, S., Lee, J.-S., & Kim, M. (2012)														
	Lee, J.-S., & Min, C. (2012)														
	Tanford, S., Montgomery, R., & Nelson, K. B. (2012)														
	Lee, J.-S., & Min, C. (2013)														
	Ryu, K., & Lee, J.-S. (2013)														
	Mair, J., Lockstone-Binney, L., & Whitelaw, P. A. (2018)														
	Aktas, G. Demirel, B. (2019)														
Desire to learn (new subjects)	x			x	x	x								x	
Educational purposes		x	x												
New knowledge and skills							x	x							
Gaining knowledge in emerging fields															x
Keep up with changes in my field					x		x		x	x		x	x		
Learning about new research						x								x	
Learning about new research methodologies															x
Improving presentation skills															x
Educational information at exhibits			x												
Having constructive feedback for improvement															x
Exchanging knowledge and ideas									x	x		x	x		
Gaining meaningful knowledge from peers															x
Respected speakers					x			x							
Conference programs		x	x								x				
Session programs									x	x		x	x		
Topic of the convention					x	x		x			x			x	
Contribution to academic development of oneself															x
Fulfilling job description						x								x	
Career enhancement		x	x												
Leadership enhancement		x													
Professional advancement	x			x		x									
Time availability (time off work)	x			x		x								x	
Conference organizer								x							
Financed by employer						x									

*Source: Author's analysis*

Relying on previous research conducted by Rittichainuwat, Beck & LaLopa (2001) examined the motivations, inhibitors and facilitators of convention attendees by using the phenomena related to the attendees' behaviour at the conventions. According to the conclusions of the mentioned research, self-enhancement and business/convention activities are the underlying dimensions of the convention motivation. Severt et al. (2007) determined that educational benefits have a major effect on the attendees' satisfaction.

*Table 3: Other convention conveniences variables*

Other convention conveniences variables	Rittichainuwat, B. N., Beck, J. A., & Lalopa, J. (2001)									
	Severt, D., Wang, Y., Chen, P.-J., & Breiter, D. (2007)									
	Mair, J., & Thompson, K. (2009)									
	Malekmohammadi, A., Mohamed, B., & Ekiz, E. H. (2011)									
	Lee, J.-S., & Min, C. (2012)									
	Tanford, S., Montgomery, R., & Nelson, K. B. (2012)									
	Lee, J.-S., & Min, C. (2013)									
	Ryu, K., & Lee, J.-S. (2013)									
	Mair, J., Lockstone-Binney, L., & Whitelaw, P. A. (2018)									
	Aktas, G. Demirel, B. (2019)									
Products available for purchase at exhibits		x								
Deals on conference package	x	x								
Being provided adequate pre-conference information										x
Being provided information on the destination visited										x
Having free Wi-Fi service at the conference venue		x								
Conference is reasonably priced		x								
To be able to afford registration fees										x
Being able to attend sessions of interest										x
Being dealt by the organising committee when needed										x
Technology requirements for the smooth flow of sessions										x
Getting new experiences				x						
Required by my company						x				
Reputation of convention						x				
Quality of exhibitors						x				
Conference quality				x						
Food and beverage						x				x
Worked into my schedule		x								
No holiday date clash				x					x	
No date clash with other conferences				x					x	
Association-related activities	x	x								
Business activities	x	x								
Spouse/family/guest programs		x								
Self-esteem enhancement	x	x								
Participating at recreational activities organised by the committee	x									x
Having enough free time to enjoy available leisure/recreational activities at the destination										x
Staff had high service attitude					x		x	x		
Staff had good knowledge of their jobs					x		x	x		
Staff was approachable and easy to contact					x		x	x		
Wonderful event that I enjoyed					x		x	x		
Convention was pleasurable					x		x	x		
Convention made me feel better					x		x	x		
Reasonably priced					x		x	x		
Offered value for the money					x		x	x		
A good event for the money					x		x	x		
Helped me feel acceptable to the association I engage in					x		x	x		
Improved the way I am perceived by other people					x		x	x		
Improved the way I see myself					x		x	x		
Developed my professional social networking							x			
Gaining recognition from peers							x			

*Source: Author's analysis*

Ryu & Lee (2013), Kim et al (2012) and Lee & Min (2013) used multidimensional values in their research. Ryu & Lee (2012) examined how distinctively convention attendees evaluate a convention when they perceive different levels of self-congruity. Differently tiered self-congruity attendees can be best discriminated by social networking, social value, and revisit intention.

Lee & Min (2013) examined multidimensional value for convention attendees without the self-congruity construct. Their findings indicate that the functional value is superior over the social one when assessing the value. Kim et al. (2012) reveal that the multidimensional value affects behavioural intentions more positively when it comes to the repeat attendees in comparison with the first-timers.

### **3.2. Site-specific dimension variables**

In the era of globalization, the host destination can be almost anywhere in the world which results in fierce competition between potential host destinations. In the past, only the big capital cities could host a convention. With the rapid construction and expansion of convention centres and facilities with similar purpose around the world, in today's market many of the smaller cities compete for attracting large conventions as well. The intensity of competition naturally results in the types and the scope of factors crucial for the choice of host destination (Swarbrooke and Horner 2001: 93). The following represents the analysis of papers which explore the key variables of the convention destination evaluation, that is, the factors which potential convention attendees consider when making the decision about attending a particular convention or choosing another one. Destination is usually evaluated through its accessibility, extra-convention opportunities and site environment.

*Table following on the next pages*

Table 4: Site-specific variables

Site-specific variables	Oppermann, M., & Chon, K.-S. (1997)												
	Rittichainuwat, B. N., Beck, J. A., & Lalopa, J. (2001)												
	Severt, D., Wang, Y., Chen, P.-J., & Breiter, D. (2007)												
	Zhang, H. Q., Leung, V., & Qu, H. (2007)												
	Yoo, J. J.-E., & Chon, K. (2008)												
	Mair, J., & Thompson, K. (2009)												
	Yoo, J. J.-E., & Zhao, X. (2010)												
	Malekmohammadi, A., Mohamed, B., & Ekiz, E. H. (2011)												
	Kim, S., Lee, J.-S., & Kim, M. (2012)												
	Lee, J.-S., & Min, C. (2012)												
	Tanford, S., Montgomery, R., & Nelson, K. B. (2012)												
	Lee, J.-S., & Min, C. (2013)												
	Ryu, K., & Lee, J.-S. (2013)												
	Mair, J., Lockstone-Binney, L., & Whitelaw, P. A. (2018)												
	Aktas, G. Demirel, B. (2019)												
Distance of trip	x	x	x			x	x						
Time required to travel to the convention destination	x	x		x									
Traveling to desirable places	x												
Change of place	x												
Opportunities to visit the convention destination	x			x	x		x	x					
Visiting the surrounding area						x			x			x	
Travel/ scenery/ sightseeing opportunities		x	x	x				x					
Location						x						x	
Accessibility to the convention destination		x				x	x		x	x		x	x
Venue easily accessible from an airport								x	x		x	x	
Direct flight				x				x					
Local public transportation was easily accessed								x	x		x	x	
Local public transportation offered good quality									x		x	x	
Attractive destination image	x				x		x	x		x			
Extra opportunities at the convention destination					x		x						
Opportunity for enjoying amusing attractions								x	x		x	x	
Opportunity for shopping								x	x		x	x	
Variety of restaurants				x				x	x		x	x	
Variety of cultural attractions								x	x		x	x	
Availability of night life				x				x					
Accommodation & hotel facilities				x				x					
Food and restaurant facilities								x					
Desirable climate	x			x				x	x	x		x	x
Getting away from home								x					
Visiting friends & relatives	x		x	x		x				X			
Getting out of the office						x							
Attending with a friend/family										x			
Pre-/post activities	x												
Previous experience	x	x		x				x					
Common language				x				x					
Safety and security situation at the convention destination				x	x	x		x	x	x		x	x
Hygiene standards at the convention destination				x									
Health conditions for travel	x			x	x	x							
Available medical facilities						x							
Local people were friendly								x	x		x	x	
Local people were easy to communicate with											x		
Ease of visa application				x									
Total cost of attending the convention						x							
Travel funding from my organization	x			x				x					
My personal financial situation						x		x					

Source: Author's analysis

Oppermann and Chon (1997) claim that extra destination opportunities, including shopping, local attractions and recreational activities, attract the attendees. Since most of the attendees are funded by their organization, the attendees and/or their spouses prefer to participate in conventions that offer more extra opportunities along with the convention itself.

Yoo and Chon (2008) developed measurement scales to assess decision-making factors for attending a convention and determined three site-specific factors: destination conveniences, safety and health condition, and attendees' travel opportunities. Although the primary motivation is mainly education-related, the destination where the convention is organized, also has an effect on the attendees' decision-making process. The attendees often have the intention to experience leisure/recreational activities available at the destination, either on their own or as a part of the social program created by the convention organizers (Aktas & Demirel 2019). Lee & Min (2012) analyzed the asymmetric effect of the site-specific dimension attributes on the attendees' satisfaction. The findings suggest that the attendees are highly concerned with the site environment attributes which they perceive as basic requirements. If the quality of the site environment attributes exceeds the threshold that attendees can tolerate (for example, if safety is not ensured), then many attendees would be discouraged from participating in a convention. In the time of financial constrictions in the business travel industry, money and costs have a great impact on behavioural intentions towards the upcoming conventions. Research below used the cost variables for the convention evaluation.

*Table 5: Cost variables*

Cost variables	Oppermann, M., & Chon, K.-S. (1997)						
	Rittichainuwat, B. N., Beck, J. A., & Lalopa, J. (2001)						
	Zhang, H. Q., Leung, V., & Qu, H. (2007)						
	Mair, J., & Thompson, K. (2009)						
	Malekmohammadi, A., Mohamed, B., & Ekiz, E. H. (2011)						
	Tanford, S., Montgomery, R., & Nelson, K. B. (2012)						
	Mair, J., Lockstone-Binney, L., & Whitelaw, P. A. (2018)						
Transportation costs	x		x	x		x	x
Accommodation costs	x		x	x		x	x
Conference registration cost			x	x	x	x	x
Finance	x	x	x				
Exchange rate			x				
Trip cost					x		
Trade off on alternative conferences			x				
Trade off on vacations			x				
Trade off on time at the office			x				
Trade off on time with family			x				
Trade off on time with friends			x				

*Source: Author's analysis*

Zhang, Leung & Qu, (2007) redefined the model of the convention participation decision-making process developed by Oppermann and Chon (1997). A modified model of factors affecting convention participation decision-making consists of four main dimensions: personal/business factors, association/conference factors, location factors and total cost factors with two subcategorized factors: total time cost and total financial cost of the trip. In their study, in addition to the cost variables, the site accessibility and attractiveness as well as the relative importance of other variables like convention factors and personal factors were also analysed.

#### 4. CONCLUSION

When it comes to attractions, business trips often overlap with travels organized for fun and entertainment. Even though the primary goal is to satisfy their business needs, it is necessary to

fulfil the attendees' expectations as well as their time spent at the destination in a high-quality manner. Customer satisfaction has become a significant challenge for the destination, the tourism managers, and even for the organizers of business gatherings. Their focus is on making the effort to attract new attendees to the business events and to keep the existing ones, that is, gain their loyalty. Listing the variables that affect the attendees' convention evaluation is necessary for identifying the parameters which are crucial for the probability of attending a convention in the future. The main conclusions of the analysed research point out that the attendees care more about the convention-specific quality than the site-specific quality when evaluating their convention experience, considering the fact that their major interest lies in the convention itself. There are usually several conventions and meetings related to different areas which are happening at the same or similar time around the world. If the convention is held in a renowned destination, attendance increases significantly. The attendees take into account the accessibility of the destination because it is largely related to the travel costs. Less accessible destinations mean longer travels and the use of various means of transportation for the attendees. High travel costs play a crucial role in making the decision about attending a convention, especially in the times of economic recession. Since the attendees are aware of the impact of natural disasters, viral infections, terrorism threats and local violence, they are becoming increasingly worried about the site-specific factors such as climate, local population and safety. The mentioned destination attributes affect the destination image itself. The expected contribution of this literature review could be expressed in the context of suggestions which can be used by the organizers of convention gatherings so as to effectively manage the business event, enrich the attendees' experience, and attract potential attendees. At the same time, these efforts would keep the existing attendees, which is also the goal of every convention organizer. A potential limitation of this paper lies in the fact that in the case of the analysed papers where the variables used were not explicitly classified regarding the convention or destination factor, the author of the paper classified them according to the meaning. It should be noted that the reliability and validity of the above variables to be used in future research should be tested to confirm whether they are more relevant for convention or destination factors.

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## THE ROLE AND IMPORTANCE OF THE INTERNET AS A SOURCE OF BUSINESS INFORMATION IN METAL INDUSTRY

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### ABSTRACT

*Decisions making of all kinds, often several times a day, is a challenge to deal with for almost all participants involved in the business process. In real-life business situations, there are different kinds of conditions for decision making. Moreover, decisions often need to be made as soon as possible. And furthermore, problem in making the right business decision is the unavailability of sufficient information. A common aim is to provide usable and prompt business information in order to fulfill different criteria for selection of information sources and the assessment of the quality of the collected information. The use of computers and the Internet is becoming unavoidable, not only as a medium of communication, but also as an inexhaustible source of all kinds of information. Computerization and internetization greatly facilitate and accelerate all business processes and business in general. Nowadays, the Internet is becoming available to a wider range of users, both privately and for business, in order to collect the necessary information. Internet access is available to almost all employees, regardless of the management level. In order to verify the application of theoretical basis in practice, research was conducted in several metal industry companies in Međimurje County. The aim of this study is to investigate the importance of the Internet as a source of business information. Based on the research results, it can be concluded that online resources are an important source of business information. Respondents who consider the Internet as an important source of business information, also think that it is a reliable source of information. It can be concluded that the Internet is becoming an increasingly important and widely used source of business information from year to year.*

**Keywords:** *Business information, Information source, Internet, Metal industry*

### 1. INTRODUCTION

Decision making is an integral part of any business. The importance and significance of the decisions made is reflected on the difference between jobs. In order to make the right decision, it is necessary to have the appropriate information available. Obtaining information is a process that is carried out several times in the decision-making process. The decision to monitor information depends on how difficult it is to obtain the necessary information and the degree of knowing the information source (Goodhue, 1998, 109). Obtaining information is not an easy task. There are several different sources of information such as own management, product users, sales representatives, catalogs, sales literature, sales publications, etc. (Bunn, 1993, 53).



Modern business involves the use of computers and the Internet, both in communication and as an inexhaustible source of all kinds of information. The fact is that the Internet is nowadays available to a wide range of users, both privately and for business. The Internet is providing great benefits for business communication; it is the easiest way for a business to connect with customers and clients. Internet technology invented new methods of doing business. It is important for business development and it provides powerful communication and marketing tools. Since the early 1990s, the world wide web has had great potential as a new medium in collecting data and information whose popularity continues to grow exponentially. (Stanton, 1998, 709). Following the development of the Internet as a new medium, it has been noticed that in the last ten years an increasing number of companies have made information about their products and services available online (Yang, 2005, 575). At the end of May 2020, 59.6% of the world's population used the Internet, and in Europe in the same period this value was 87.2%. At the end of June 2020, 89.4% of the population in the European Union used the Internet, and 92.3% in the Republic of Croatia.

## 2. INTERNET IN THE REPUBLIC OF CROATIA

The history of the Internet in the Republic of Croatia was summarized by Škvarč (2011, 2013) who states that the idea of introducing the Internet in the Republic of Croatia was born in 1991, and in the same year the Ministry of Science and Technology launched the CARNet (Croatian Academic and Research Network) project at the initiative of Predrag Pale. The global growth trend in the number of Internet users was also recognized in the Republic of Croatia, which is shown in Table 1.

*Table 1: Number of computer and Internet users in the Republic of Croatia from 2014 to 2019.*

	2014.	2015.	2016.	2017.	2018.	2019.
Regular computer users	2.165.381	2.169.681	2.231.002	1.986.214	2.150.703	2.102.061
Regular Internet users	2.197.244	2.169.681	2.302.946	2.113.991	2.336.777	2.367.814
Using e-mail	1.516.071	1.703.136	1.821.859	1.521.697	1.840.342	1.759.920
Searching for information about goods and services	1.398.019	1.813.609	2.086.759	1.866.647	2.042.440	2.211.484
Reading online magazines and news	1.728.101	1.984.481	2.086.221	1.931.970	-	2.143.245
Looking for a job or sending a job offer	-	323.877	-	227.479	-	428.322
Searching for health information	-	828.219	714.795	652.790	1.578.176	1.879.535
Using the Internet for learning purposes	-	677.737	-	-	-	-
Internet banking	613.190	1.047.793	1.214.336	1.049.157	1.264.360	1.391.164
Sale of goods or services	679.462	1.112.802	879.279	787.820	771.247	647.479
Regular online customers	691.738	839.256	805.123	653.876	838.988	1.047.108

*Source: Šercer, own production according to the Central Bureau of Statistics*

The increase in the number of users and the increasing number of access points, among other things, have resulted in an almost daily increase in the number of websites. Table 2 shows the total number of companies as well as the number of industrial companies in the Republic of Croatia that had access to the Internet and their own website in the period from 2011 to 2019. From the presented data in the observed period, a positive trend is noticeable. Data for 2015 deviate from the trend of previous years, and the reason for this is a growing number of companies that have declared that they do not have access to the Internet, which, according to the Central Bureau of Statistics, are mostly small companies and crafts for which the Internet is not important. Performing tasks, and for activities related to the Internet, as a rule, an external associate is hired (eg accounting, etc.). Internet access is a saturated variable and it is really to be expected that its value is moving around 95%.

As far as the website is concerned, we can really expect growth with the digitalization of business and the development of Internet commerce, which is still underdeveloped in the Republic of Croatia.

*Table 2: Number of companies in the Republic of Croatia that had access to the Internet and its own website from 2011 to 2019.*

	2011.	2012.	2013.	2014.	2015.	2016.	2017.	2018.	2019.
Total number of companies	10.526	10.622	10.090	9.226	9.014	10.995	11.232	11.700	12.063
Companies with Internet access	10.082	10.193	9.847	8.893	8.135	10.039	10.773	11.316	11.848
Companies with their own website	6.986	6.937	6.909	6.125	6.422	7.563	7.989	8.531	11.817
Companies with Internet access (%)	95,8	96,0	97,6	96,4	90,2	91	95	94	98
Companies with their own website (%)	66,4	65,3	68,5	66,4	71,2	69	71	73	69
Total number of industrial companies	3.480	3.231	3.105	2.526	2.366	3.082	2.996	3.101	3.147
Industrial companies with Internet access	3.299	3.078	2.993	2.441	2.090	2.718	2.822	2.904	3.145
Industrial companies with their own website	2.458	2.097	2.140	1.707	1.675	2.123	2.155	2.179	2.313
Industrial companies with Internet access (%)	94,8	95,3	96,4	96,6	88,3	88	94	94	100
Industrial companies with their own website (%)	70,6	64,9	68,9	67,6	70,8	69	72	70	74

*Source: Šercer, own production according to the Central Bureau of Statistics*

Research on the use of the Internet by Croatian managers conducted by Dukić and Bojmić (2010) showed that 89% of Croatian managers have access to the Internet at work, and 79% of them have their own e-mail address at work. The average weekly internet usage is 8.25 hours, and the usual deviation of 9.09 is an average of 5 days allowing daily internet usage in a five-day work week of 1 hour and 39 minutes. The average score of respondent satisfaction with the usefulness of information obtained on the Internet on a scale from 1 to 5 was 3.83 with a standard deviation of 1.01 and a median of 4 (Dukić and Bojmić, 2010: 461). Jergović and Račić (2011) researched the media that, in the opinion of Croatian science journalists, mostly deal with science topics and found that 86% of respondents recognize the possibilities of the Internet when it comes to presenting scientific content and believe that the Internet is the leading medium when it comes to science topics, followed by newspapers, radio and television. Furthermore, Jergović and Račić were interested in what is first searched on the Internet in order to get scientific information. Among the websites of scientific institutions or scientists, scientific journals, scientific portals, blogs of scientists and experts or websites of other media, the highest ranked are scientific journals. Ranking lists with the results of reliability, frequency of use and representation of scientific content in the mass media as sources of information are shown in Table 3.

*Table 3: Frequency of use, reliability, and representation of scientific content in the mass media*

The most common source of information:	The most reliable source of information:	Scientific contents are most represented at:
1. Internet	1. The radio	1. Internet
2. The newspaper	2. TV	2. The newspaper
3. The radio	3. The newspaper	3. The radio
4. TV	4. Internet	4. TV

*Source: Jergović and Račić (2011: 14)*

The biggest advantages of the Internet are the availability, speed and pluralism of information sources. Nevertheless, there is scientific distrust of the Internet when it comes to its reliability, and this primarily refers to information. Users are concerned about unreliability, inaccuracy, too much irrelevant information about authority and source inquiries. The Internet as a medium offers the possibility of "many-to-many" communication and low or no regulation of content. The Internet is not yet the primary source of information, but a source of additional information, and scientists and scientific journals are still considered to be the source of the most useful and valuable scientific information (Jergović and Račić: 2011, 18).

### **3. RESEARCH**

Survey data for this study were collected through a structured questionnaire. 10 metal companies located in the area of Međimurje County were included in this research. The criterion for participation in the research was the number of employees; the top and middle management of metal companies with more than thirty and less than six employees. In each company involved in this study, assistants were assigned to help by taking the questionnaires and distributing them to the respondents for completion. After completion, assistants also collected and returned completed questionnaires. Respondents had four weeks to complete the questionnaire. With companies that did not return the questionnaires after the deadline, contact was established and the deadline for submitting completed questionnaires was extended for an additional two weeks. After additional two weeks, completed questionnaires were collected and returned. A total of 104 questionnaires were submitted for completion, of which 38 top management respondents and 66 to middle management respondents. A total of 92 questionnaires were returned, of which 7 were excluded before data processing due to incompleteness, while 85 were valid: of which 28 (73.7%) questionnaires of the top management and 57 (86.4%) questionnaires of respondents of lower hierarchical level. The overall effective response rate was 81.7%.

#### **3.1. Sample description**

Respondents were divided into two levels of management: top and middle management. Top management included executives such as general managers and directors and their deputies, technical directors and procurement or sales directors. Engineers, technicians and economists in charge of performing daily tasks operations at the operational level included middle management. Out of a total of 85 respondents, 28 of them belonged to the top management, which in percentage amounts to 32.9%. The middle management includes 57 respondents, which amounts to 67.1%. The average age of top management employees was 43.5 years. The youngest respondent was 27 years old at the time of this study, and the oldest was 67. The average age of middle management employees was 36.9 years. The youngest respondent at the time of the study was 24 years old, and the oldest was 59. The average age of all 85 respondents was a total of 39.1 years. Regarding completed education, in the observed sample, the majority of top management respondents, 23 of them (82.1%) have a university degree. Unlike top management, at the level of middle management the number of respondents with and without university education is more uniform. 26 of them (45.6%) are not university educated while 31 respondents (54.4%) have university education. Among other things, respondents answered questions related to the use of computers and the Internet and the following data were obtained: 53.6% of top management respondents have used a computer less than 15 years, and respectively, 54.4% of middle management respondents. 21.5% of the top management respondents have been using the Internet for 15 years or more. The percentage of middle management respondents who have been using the Internet for 15 years or more is lower than the percentage of top management respondents and amounts to 15.8%.

Further, 57.1% of the top management respondents use the Internet for business purposes for more than 1.5 hours a day, and respectively 52.7% of middle management respondents.

### 3.2. Questionnaire

The questionnaire was designed to gather and process data related to the use of the Internet as a source of business information needed in everyday business decision making process, to collect data on the characteristics of business information gather online and to assess the quality of business information gather on the Internet. The questionnaire was based on previous used and verified measuring instrument proposed by Allen and Gerstberger (1967 and 1968) and on the adapted measuring instrument proposed by Kwasitsu (2003). Respondents of both top and middle management filled out identical questionnaires; using the Likert five-point scale to assess the importance of the Internet as a source of business information and the following features of the Internet as a source of business information: accessibility, ease of use, quality of information, experience in using information sources and reliability. In addition, respondents rated the characteristics of the daily gathered information on the Internet for business purposes.

### 3.3. Analysis and results

The gathered data were processed and analyzed in several steps. The first step involves counting the scores for all the statements of the respondents based on a five-point Likert scale after which the obtained values are converted into percentages. For example, 1 respondent (1.2%) rated free Internet sources as completely unimportant "CU", 4 respondents 4.7 (%) rated them as unimportant "U", 20 (23.5%) respondents as neither important nor unimportant "NINU", 29 respondents (34.1%) as important "I", and 31 respondents (36.5%) rated free Internet sources as extremely important "EI". The values are assigned to the Likert scale values: 1 for CU, 2 for U, 3 for NINU, 4 for I and 5 for EI, and simultaneously multiplied by the corresponding percentage of responses, and summed for the score for each source of information. The obtained results are shown in Table 6.

*Table 4: Analysis results of assessments of the importance of information sources*

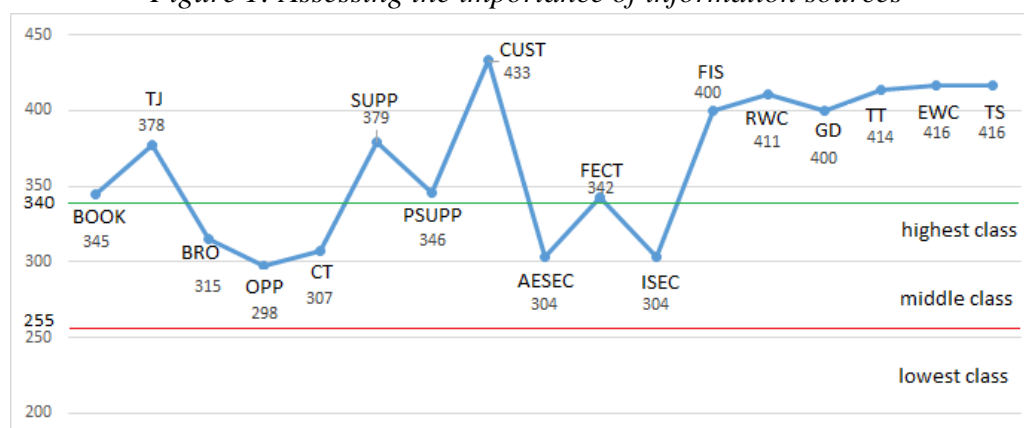
Information source:	Percentages of responses					Score
	CU	U	NINU	I	EI	
Books - BOOK	3,5%	14,1%	31,8%	35,3%	15,3%	345
Technical journals - TJ	2,4%	7,1%	23,5%	44,7%	22,4%	378
Brochures - BRO	3,5%	20,0%	38,8%	32,9%	4,7%	315
Other printed publications - OPP	4,7%	20,0%	50,6%	22,4%	2,4%	298
Commercial travelers - CT	10,6%	10,6%	45,9%	27,1%	5,9%	307
Suppliers - SUPP	0,0%	5,9%	29,4%	44,7%	20,0%	379
Potential suppliers - PSUPP	0,0%	14,1%	40,0%	31,8%	14,1%	346
Customers - CUST	1,2%	2,4%	10,6%	34,1%	51,8%	433
Advisory external sources at extra charge - AESEC	8,2%	16,5%	44,7%	24,7%	5,9%	304
Free external consulting tips - FECT	3,5%	12,9%	28,2%	48,2%	7,1%	342
Internet sources with extra charge - ISEC	7,1%	23,5%	34,1%	29,4%	5,9%	304
Free Internet sources – FIS	1,2%	4,7%	23,5%	34,1%	36,5%	400
Research within the company - RWC	0,0%	4,7%	17,6%	40,0%	37,6%	411
Group discussions - GD	0,0%	5,9%	22,4%	37,6%	34,1%	400
Trials and tests - TT	0,0%	4,7%	22,4%	27,1%	45,9%	414
Employees within the company - EWC	0,0%	3,5%	15,3%	42,4%	38,8%	416
Technical staff - TS	0,0%	1,2%	16,5%	47,1%	35,3%	416

In the next step, the score range (minimum number of points = 0 and maximum possible number of points =  $85 \times 5 = 425$ ) is divided into three score classes:

- Lowest class - from 0% to 60% or 0 points to 255 points;
- Middle class - from 61% to 80% or 256 points to 340 points;
- Highest class - from 81% to 100% or 341 points to 425 points.

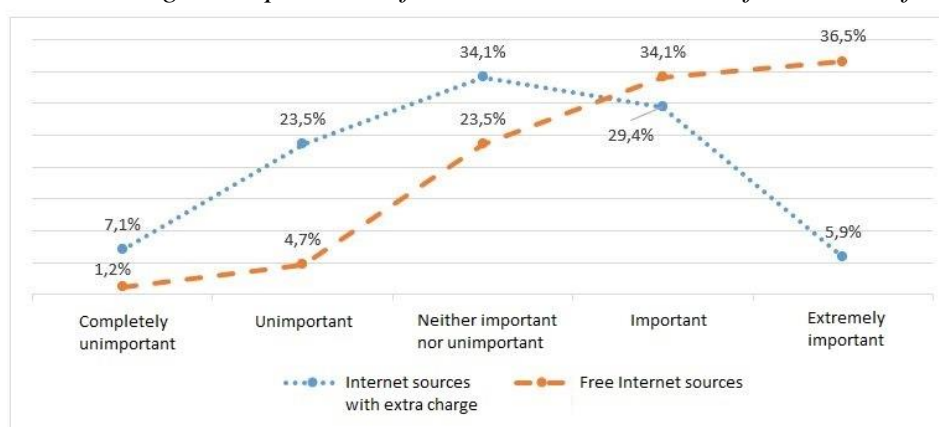
The importance scores of the information sources are entered in Figure 1.

*Figure 1: Assessing the importance of information sources*



The represented data show that sources of business information on the Internet with extra charge do not represent an important source of information for respondents (ISEC-score 304), while free Internet sources represent a significant source of business information (FIS-score 400). Most importance is given to information obtained from customers (CUST-score 433) and internal sources of information such as employees and technical staff (EWC-score 416, TS-score 416), trials and tests (TT-score 414) and research within the company (RWC-score 411). Estimates of the importance of the Internet as a source of business information are shown in Figure 2.

*Figure 2: Assessing the importance of the Internet as a source of business information*



From the previous diagram it can be seen that more than 70% of respondents consider free sources of business information on the Internet to be important, while sources on the Internet with extra charge are given much less importance. In order to determine statistically significant differences between respondents in their points of views on the importance of the Internet as a source of business information, cluster analysis was applied, and 2 particles of the measuring instrument connected to the Internet were selected as criterion variables.

Cluster 1 is represented by respondents who consider the Internet as an important source of business information, while Cluster 2 is represented by respondents who consider the Internet as an unimportant source of business information. The results of the t-test which analyzed the differences between clusters according to the criterion variables are shown in Table 7.

*Table 5: Comparison of clusters according to the importance of the Internet as a source of business information*

Item	Cluster	n	Mean	Standard deviation	t	p
Internet sources with extra charge	1	54	3,57	0,767	8,815	0,000***
	2	31	2,10	0,700		
Free internet sources	1	54	4,44	0,604	7,206	0,000***
	2	31	3,23	0,956		

\*\*\* the difference is statistically significant at the significance level  $p < 0.001$

The results of the t-test showed the existence of statistically significant differences for both items. From the obtained data, it is evident that the respondents of cluster 1 rated the importance of the Internet as a source of business on average higher than the respondents of the cluster 2, in all dimensions of this item. This difference is statistically significant. The respondents were divided into two groups, considering to the above clustering criteria, and additionally, it was examined by which other characteristics, which were not the basis of clustering, the identified groups statistically significantly differ. In the analysis of the gathered data, chi-square test and t-test were used. These tests were used to identify statistically significant differences between clusters regard to the demographic characteristics of respondents and to the importance they attach to the characteristics of information sources. According to the demographic characteristics of the respondents, neither the chi-square test nor the t-test showed the existence of statistically significant differences ( $p > 0.05$ ) among the clusters. The t-test determined the existence of statistically significant differences with regard to the reliability of information sources ( $t = 1,999$ ;  $p = 0,049$ ), the experience in source using ( $t = 2,793$ ;  $p = 0,006$ ) and information obtaining speed ( $t = 3,707$ ;  $p = 0.000$ ) which is shown in Table 8.

*Table 6: Statistically significant differences between clusters*

Item	Cluster	n	Mean	Standard deviation	t	p
Reliability of information source	1	54	4,54	0,770	1,999	0,049*
	2	31	4,19	0,749		
Experience in source using	1	54	4,13	0,728	2,793	0,006**
	2	31	3,65	0,839		
Information obtaining speed	1	54	4,57	0,536	3,707	0,000***
	2	31	4,00	0,894		

\*\*\* the difference is statistically significant at the significance level  $p < 0,001$

\*\* the difference is statistically significant at the significance level  $p < 0,01$

\* the difference is statistically significant at the significance level  $p < 0,05$

The obtained results show that respondents who consider the Internet to be an important source of business information (respondents selected in the cluster 1) pay more attention to reliability, experience in using information source and information obtaining speed when choosing source of business information.

#### 4. DISCUSSION

Top managers as well as operational management attach equal importance to the collection of business information on the Internet as one of the sources. The greatest importance is attached to internal sources such as research within the company, work colleagues, group discussions, trials and tests, and technical staff. This research confirmed the results obtained by previous research. Hertzum and Pejtersen (2000) have shown that working colleagues are the primary source of information for engineers, and the main reason for this fact is their accessibility. The same conclusion was made by Kwasitsu (2003) who reveals that colleagues in their own work unit constitute the basic source of information. An important source of information are also the customers. Back in 1967, Rosenberg discovered that the least used sources of information are outside the company, which require correspondence by letter or by contacting people who are tens of kilometers away from information seekers. Likewise, information sources that are only available at an extra charge are given less importance.

#### 5. CONCLUSION

Free Internet sources are an important source of business information, in the use of which no statistically significant differences were found for any demographic characteristics (age, gender, education, level of management, etc.). Respondents who consider the Internet to be an important source of business information, also consider the Internet as a reliable source. They use the Internet because of the experience in its use and because it is a source from which they can gather the requested information in the shortest possible time. Following the current trend, it can be stated that the Internet will publish all important and use original business information from year to year. Future research recommends monitoring the manner, intensity and development of the Internet as a source of business information and assessing the quality of business information gathered on the Internet. Est brute congue tacimates ei, mel ex solet graeco. At has utinam iriure, primis quaestio consequat eum te. Bonorum rationibus duo ne, per ad molestie dissentiet.

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## THE DARK TRIAD – REALITY AND PERSPECTIVE

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### ABSTRACT

*The personnel is the most important segment of the business of each corporation. The higher is the position of an individual on the hierarchical level, the higher is its power. The consequences of its actions are more significant, and therefore the responsibility. In order to effectively and efficiently manage the system and achieve the goals set by the owners, and to withdraw sometimes unpopular moves that have negative consequences for employees, it helps managers to have characteristics of the Dark Triad. Machiavellism, narcissism, and psychoticism are positive and required traits in corporations in managerial structures while otherwise in social and interpersonal relationships outside the corporate environment, undesirable and harmful. The owner or employer will find and hire the market manager who, based on his references and results, proves that he has the necessary traits from the spectrum of the Dark Triad. When interviewing and testing for a high-ranking workplace, it is no longer necessary to try to hide the narcissistic, machiavellian, and psychopathic qualities. They are desirable. Each owner, each supervisory board, will gladly hire a manager, a member, or a CEO with such traits knowing that he will fulfill every requirement of the owner effectively without questioning or complaining. Machiavellism, narcissism, and psychoticism open the path to success, and those who do not have these qualities have no chance of competing with those who have these characteristics. Recent past, current times as well as prediction of future events will mark the increasingly competitive competition in the market, as well as the increasing demand towards employees, but also the management. It will all lead to the fact that holders of the Dark Triad traits will be increasingly at a price and increasingly sought-after.*

**Keywords:** Dark Triad, Machiavellian, Narcissist, Psychopath, Manager, Personnel

### 1. INTRODUCTION

The phenomenon of the Dark Triad in the last fifteen years since it was introduced, becomes a more and more present topic in Croatia. This research paper aims to contribute to the approximation of the theory towards practice. The goal is to provide answers to some of the questions raised in front of the whole society. One of the critical issues is whether or not the time has come for psychopaths, narcissists, and Machiavellians, and whether their traits, which were negative until yesterday, have become positive and even desirable and demanded today. The position of an individual in the personnel hierarchy of a corporation, as well as its progression, should be in close correlation with the positive character traits of that person. Hard work, determination, accountability, and honesty, in combination with the appropriate education, vocation, and skills required for the position, should ensure continuous progress on

the way to the top. In practice, it is not always like that. Not all high-ranked managers in corporations or politicians managed to get so high thanks to having positive character traits and because they are experts. There are many possible causes of their progression, and one of the possible traits comes from the spectrum of the Dark Triad. A person with the characteristics of a Dark Triad is capable of deciding to dismiss a thousand people. The politician is giving promises than fail to fulfill the promised and reruns. Both of them do not have any moral dilemmas or any empathy for those whom they have harmed or deceived. On the contrary, they are convinced that they are right, have made the correct decision, and even feel good, confident that no one would do as good as they did. Is it a Dark Triad that creates new relationships and a new society, or has society created the need to lead us to people with negative qualities, with characteristics of the Dark Triad? What was first; the chicken or the egg? Why do people dislike persons with traits of the Dark Triad, and at the same time, they would like to be at their mercy and often serve them faithfully? There are many questions, but one thing is sure; business owners will entrust the performance of the highest functions in the company to the people they believe have the necessary qualities that make them capable of doing what they are asked and expected. These qualities are elements of a Dark Triad.

## 2. THE DARK TRIAD

The term Dark Triad is relatively new and comes from the work of American psychologists Paulhus and Williams (2002). Machiavellism, subclinical narcissism, and subclinical psychopathy are three traits, three personality traits that, if they appear together, make up a Dark Triad. The proportions of the individual elements are not always the same and differ from person to person. The element which is most powerfully present as a trait in the person will become the major characteristic. For example, if narcissism prevails, that person will be vain and focused on himself but will be better accepted in the environment than those dominated by the other traits of the triad. Narcissism is the least harmful and not aggressive and dangerous to the people of the environment. If the psychopathic trait dominates, then a person will characterize psychopathic traits that are very unpleasant for people and the environment and can also be dangerous due to lack of empathy and aggressiveness of psychopaths. As a predominant Machiavellist, the person will focus on his interest and creation of the set goals at all costs. However, regardless of the overcoming of individual personality traits, it is always the characteristics of the triad selfishness, self-sufficiency, lack of empathy, and a negative impact on people and interpersonal relationships. The Gabor Mušura (2017) believes that the typical Triad Trinity is "cold, selfish and malicious behavior in interpersonal relationships". The very notion of the Dark Triad exists from 2002 years, but its elements, even for themselves, are, of course, known much earlier. For each of these elements, Machiavellism, narcissism, and psychopathy, there are developed instruments for measuring them. Brcković (2018) states that with the phenomenon of the Dark Triad appeared the need to develop measurement instruments, for all three elements of the Triad, i.e., the whole triad in one questionnaire. Two instruments have been developed as questionnaires that have been confirmed in practice; The short version known as a Dirty dozen with twelve questions and a long one known as a Short Dark Triad (SD3). However, there is also an opinion that these instruments are not satisfactory and that they are too simple (Muris et al., 2017, indicated in Brcković 2018). It is certain that in the future, the existing instruments to measure the elements of the Dark Triad will be developed. Scientists who have dealt with the study of the Dark Triad and its elements to establish similarities and differences in male and female sex have obtained mainly the results that the Dark Triad is generally more present in men than in women (Paulhus and Williams, 2002; Muris et al., 2017 mentioned in Brcković 2018). There is a link between the characteristics of the Dark Triad (Cohen 2015 cited in Ždravac 2015) and counter-productive working behavior whereby it is remarkable how a person perceives his importance in the organization.

The manifestation of counter-productive behavior will be the most respectful to the degree of dissatisfaction with a position in the organization concerning the organization's management. In addition to the question of the presence of the Dark Triad in literature and practice, the question of morality and the impact of morality on decision-making is tied. Moral reasoning should be distinguished from moral decision-making. In moral reasoning, an individual judges what behavior in morally questionable situations is good or bad and why. Moral decision-making also includes an assessment of good and bad behavior but includes a commitment to the attitude and decision making (Korunić 2018). Rauthmann and Will (2011, cited in Korunić 2018) found that people who are high on the scale of Machiavellism have less moral than other individuals and show fewer regrets. These people can morally resonate and can understand others' perspective, but do not behave morally and use immoral tactics to accomplish their goal. It is assumed that the correlation between psychotic and moral behavior is negative due to the characteristics of psychotics. However, there is no clear correlation between narcissism and moral behavior because narcissism has two sides, and narcissistic individuals, because of their vanity and arrogance, can behave in an immoral manner and be destructive. However, they can, due to a certain degree of charisma, that narcissists have, be constructive, and make moral decisions (Korunić, 2018). Mušura Gabor (2017) assumes the Dark Triad has a bright future.

### **2.1. Machiavellism**

A term named after Niccolò Machiavelli, chief political adviser to the Medici family, an Italian diplomat, politician, and writer, author of the book *Il Principe* (ruler) in which he writes about how to govern and stay in power using even the most brutal methods. The essence of this work can be best presented in one sentence Machiavelli did not write but which is often used today, and reads: "The purpose justifies the means." (Ždravac, 2015). The book is popular even today as well as some methods from it. Machiavellism characteristics have people who are calculated, prone to deception, extremely pragmatic, manipulative concerning other people; their focus is their interest and power. "People with pronounced Machiavellism characteristics are manipulative, inclined to deceive and exploit others, have a cynical attitude towards morality and are directed towards their interest" (Furnham, Richards and Paulhus, 2013, mentioned in Brcković, 2018). It is important to them in any way to achieve the goal they have given themselves. Machiavellians are in the construction of their careers (Ždravac, 2015) oriented towards occupations that carry a higher financial gain as well as reputation in society. At work and in career building, they are characterized by discontent achieved because they believe that they are underestimated and deserve more than what they get and have the feeling that the working environment is hostile to them. Of course, according to Machiavellian traits they have, they will try to remove this unsatisfaction to get what they think belongs to them, to climb on the hierarchical ladder, increase their income and reputation in the community, and annulate as much as possible the feeling of undervaluing is possible.

### **2.2. Narcissism**

Narcissism was named after Narcissa, a character from Greek mythology who was blinded by himself, in love with himself and his character. Sigmund Freud described the clinical phenomena of narcissism as the attitudes of self-love, admiration, and self-praise as well as fears of loss of affection and self-esteem (Ždravac 2015). People with narcissistic characteristics, therefore, with "normal" and not clinical narcissism, are "in love with their image". They feel superior and dominant, arrogant, vain, focused only on themselves, and can convince themselves that they are unique and more valuable and that they are entitled to something that others do not have. They are prone and attributing others' merits to themselves. The attribution of others' merits often happens in organizations and corporations and causes conflicts and poor interpersonal relationships.

Narcissists have a pronounced emotional intelligence, and they can even deal with certain occupations to be popular. In public, narcissist persons are perceived and accepted as more comfortable than those with machiavellian and psychopathy traits (Rauthmann and Kolar 2013 listed in Kraljević 2014). This perception is explained by the fact that the traits of narcissists, such as courage, leadership skills, and charm, are socially desirable (Rauthmann and Kolar, 2013, listed in Pavlović et al. 2017). In modern Western culture, there is growing narcissism (Twenge and Campbell 2009 listed in Ždravac 2015). The authors say that there has actually been an undesirable effect of otherwise positive efforts to encourage people to feel self-conscious, to look at the positive light, to have confidence, and, finally, to be happier. Today the reality is that there is an increasing desire for belonging and acceptance by the environment and wants to create a more beautiful image of oneself. The desire to acquire material wealth and to achieve ideal physical appearance is emphasized. The careers of narcissistic individuals are associated with the peculiarities and characteristics of Narcissus. Because of personality and ability, they are often also very charming, able to make a good impression of themselves what is an essential advantage for getting a job. Their career is a crucial social status and everything related to strengthening the ego. Also, because they are essential to themselves, they like to feel safe and not prone to risky and potentially dangerous behaviors.

### **2.3. Psychopathy**

People with the psycho-psychotic disorder, i.e., persons with psychical personality, which is therefore not of clinical nature are characterized primarily by the lack of empathy, guilt, and remorse, emotional cold, manipulative behavior, antisocial and criminal behavior as well as irresponsible, destructive and aggressive, and impulsiveness and seeking excitement. Psychopathy is complex, but it can be said that the essence of it is heartless. A person with a psychotic personality can generally live and work because if the symptoms are not too strong, it is not about mental illness. Amongst all three elements of the Dark Triad, the psychopaths cause the most painful consequences for those who come into contact with them. Alternatively, bear the consequences of the actions of a person with a psychotic disorder. "It is believed that amongst all three components of the Dark Triad, the Psychopathy is the most treacherous of nature, which is a wide range of self-expression and behavioral measures of antisocial behavior" (Paulhus and Williams, 2002, cited in Kraljević 2014). The psychopathic qualities (other than the positive consequences of acting for the interests of the owner) can also have much higher negative consequences for the working environment and the corporation. In this sense, Psychopathy is more dual and is considered much more dangerous than Machiavellian and narcissistic traits. Zdravac (2015) thus states that the traits of psychopaths such as impulsiveness, manipulateness, lack of ability to sympathize, and experience guilt, rectitude, lack of remorse, as well as other psychopathic manifestations cause destructive behavior towards the organization in which they work as well as the working environment. These include physical conflicts with employees, property theft, sabotaging labor, as well as other forms of destruction. They are excellent communicators and masters of human manipulation. Psychopaths are more prone to risky behavior than Machiavellians and narcissists, and they tolerate dangers and crises. They do not think and do not deal with the negative consequences for them if something goes wrong; instead, first of all, it is an important goal they want to achieve. Psychopaths as bosses "have a highly toxic effect on the employees" (Mathieu et al. 2103 mentioned in the Ždravac 2015) as well as the "psychopathic tendencies of the bosses are statistically significant, negatively related to the employee's job satisfaction, and positively with his psychological distress and the frequency of conflicts within his family". Psychopathic bosses, therefore, have an extremely negative effect on employees to the extent that they can cause and severe health consequences for employees, both psychic and physical, and affect the quality of life of the employee's family.

### 3. CORPORATE PSYCHOPATHS, MACHIAVELLIANS AND NARCISSISTS

Author, Mušura Gabor (2017) emphasizes as an essential fact that Psychopathy (as well as the other two elements of the triad) are typically distributed in the population, and the characteristics of the Dark Triad are evenly distributed in the population. Each of us, each individual, has in a smaller, higher, or considerable measure those characteristics. It also states that individuals with psychotic traits have a need to ascend to the top of a hierarchy in an organization, and organizational, corporate psychopaths, despite all the negative qualities, succeed to be perceived as strategists, creative, innovative, and successful communicators. Therefore, the author concludes that the proportion of individuals with psychological characteristics among the top managers is higher than the average population. In his work, he also cited the results of the research conducted among students of different orientations to find and measure the links between the characteristics of the Dark Triad and the chosen direction of the profession, where the results showed that students studying business have the most traits of the triad. Based on that, he concludes that persons who have characteristics of the Dark Triad choose certain professions where their traits will be further strengthened and often rewarded. Those with strongly expressed triad traits are recruited as organizational leaders and corporate managers as well as political champions. Climbing on a political-hierarchical scale from the municipality, city, or county to the political top, is similar to organization or corporation. However, while in corporations, interviews and different types of testing are carried out, on the political level and in the parties, do not. "It is a somewhat frightening fact that the most responsible persons in society and the creators of social prosperity do not undergo any classical selection test. Nothing is tested. Individuals enter into powerful social positions without any control of common sense, and there are no minimal indications that this will change "(Mušura Gabor 2017). Given the potential damage that Psychopaths can inflict on organizations, methods are being developed to prevent their actions. Thus, Babiak and Hare (2006, 2018) are engaged in methods of prevention of psychopaths employment, the problem of spotting psychopaths in corporations, their destructive behavior, and preventing their actions. It amounts to the fact that in companies, about 3% of employees are psychopaths compared to 1% in the general population of the United States. They also state that psychopaths often act in three phases: first, they evaluate the usefulness of the victim for them; in the second phase, take from the victim what they want and in the third phase-the stage of abandonment rejects the victim by avoiding any contact. Large companies are suitable places and environments for psychopaths because employee relationships should be based on trust, so it is easier to misuse, and prey in the corporate environment is likely in money, prestige, and power. The authors note that psychopaths are an obstacle to organizational control that permits them and makes them more difficult or even expelling them from the organization. However, there is also a category of corporate psychopaths, a psychopath who has the skills they need and who are well in the corporate environment. They have managed to employ themselves using manipulation, lying, and charm and using weaknesses; however, to some extent, the subjective selection process of candidates. In a new environment, a corporate psychopath seeks out his victims to accomplish some benefit, but at the same time, he seeks a patron who is positioned on the higher hierarchical ladder that will protect him when the problems occur. Once he does not need that person, the psychopath will reject him or her, and the same person can become a victim. The damage they inflict on the organization is significant, and the authors conclude that it is best to stop a psychopath at the first step in his attempt to employ himself because later, it is much harder to do once specific damage is done. Our political and economic situation in which it is continuously necessary to reorganize something, where corporate profits are all, and everything is to get subordinate, where cities and municipalities are kept as companies, where they always need something to be reconfigured, rationalized, downloaded or abolished as being created for people with psychotic as well as other personalities from the triad.

The terms used are mitigated reality, so the manager will not fire people but will make downsizing and dispose of them. Workers' rights are not reduced, but in order to rationalize costs, people are not pre-existing but are already being, for example, outsourced. Unscrupulous and insensitive do these jobs without emotional problems; they are efficient and more comfortable to thrive. They swim like a fish in the water and receive recognition from the owner and an excellent financial reward. The narcissist trait tells them they are the best and the brightest, Machiavellistic, that it had to be done in the name of a higher purpose, and pathological keeps them from reviewing and remorse alleviating. Those who are more intelligent and better communicators can send a picture of themselves as capable and creative visionaries. Of course, they will provide support for the media through targeted investments in advertising. It is paradoxical that politicians with public money- citizens' money, under the guise of informing the public, finance advertising and, in a more or less obvious way, promote themselves and nourish their narcissism. Of course, the machiavellian line of their personalities approves of it because the goal is to justify the means and psychopathic is not upset about it. Psychopaths have something in common, a desire for a successful career. Very often, thanks to their qualities, such as ruthlessly, decision-making capacity, and lack of fear, they are in leading and responsible positions. Accordingly, they choose certain professions. According to Oxford psychologist Kevin Dutton ten most popular occupations elected by psychopaths are as follows (Dutton 2012 cited in Dodgson 2018):

- 1) Company Directors (CEO);
- 2) Lawyers;
- 3) Media workers on TV or radio;
- 4) Dealers;
- 5) Surgeons;
- 6) Journalists
- 7) Police Officers;
- 8) Priests;
- 9) Chefs;
- 10) Civil servants.

Dutton (2012 cited in Dodgson 2018) emphasizes how people can be successful in these occupations using some of the psychopathic qualities. Moreover, as some of the psychopathic traits are more pronounced, the person with these qualities will be more successful in this profession. So the directors of companies and the leading people in corporations can be successful using some of those traits such as emotional insensitivity and lack of empathy. Lawyers can use high self-esteem and cold blood. Some psychopaths also exhibit narcissistic traits, which is useful for media professionals because they focus on the public as well as being resistant to stress. For the seller's business, it is desirable to have a desire for profit, excessive self-promotion, and an approach to use information illegally. For surgeons, Dodgson (2018) states that the survey published in the Bulletin of the Royal College of Surgeons of England showed that "stress immunity" is a common feature of psychopaths and the desirable trait of surgeons who are always in a situation to make difficult, fast and essential decisions. Dutton (2012 cited in the Dodgson 2018) lists some of the characteristics of psychopaths such as charm, ruthness and focus, which are also desirable journalistic traits in the situation of short deadlines but also the need to receive answers and information from the source. Police work is dangerous, and it is crucial to remain "cold-headed" and calm in a crisis and stressful situation, which is the characteristics of psychopaths. According to Dodgson (2018), in his post for the blog Psychology Today, the FBI veteran Joe Navarro is explaining some of the reasons why Psychos can achieve a career in the church states that religious organizations may provide people with the means to exploit others while giving legitimacy to their actions.

The chefs welcome the trait of chaos that rules in the bustling kitchen, which many would not be able to handle and cope with, mainly due to the pressure of deadlines in which the work should be done. The last one on a ten-profession scale is civil servants who, in support of being productive, go with psychopathic traits such as the lack of moral code and feelings for others, and their ability to function well in a crisis.

#### **4. DARK TETRAD**

More recently, the Dark Triad has been expanded by another element, and the notion of dark tetrad has been introduced. The new, fourth element is sadism. Sadism is most commonly defined as enjoyment when hurting someone or enjoying someone's suffering. In organizations and corporations and everyday life, it is not physical pain. Sadism is most often manifested by daily or frequent verbal abuse, which can be, for example, humiliation or aggressive humor by which Sadist tries to humiliate someone and bring him into a state of embarrassment. Scientists are also engaged in new forms of sadistic behavior that have emerged through the development of technology. Several scientific papers that classify Internet users who troll in sadist because they want to inflict pain on someone or want someone to feel uncomfortable. For example, in his research Golbeck (2014) deals with online trolls and says, "an internet troll is someone who enters a discussion and sets comments designed to disturb or disrupt the conversation". He argues that their comments do not have any real purpose other than the harassment of those involved in the discussion and that for this purpose, "trolls will lie, exaggerate and insult to get an answer." Golbeck further states that a group of Canadian researchers conducted a survey on a sample of more than 1200 respondents, intending to explore the possible links between the characteristics of the dark tetrad, Machiavellism, narcissism, psychopathy, and sadism with the characteristics of internet trolls. The results showed that the characteristics of the dark tetrad were particularly prominent among people who stated that online trolling is their favorite activity and to the extent that it could be said that internet trolls are prototyped, daily sadists. Apart from the fact that they are more often opting for certain professions, those who have the characteristics of the Dark Triad and Tetrad are also more involved with activities that are not their occupations or professions. Buckels et al. (2014) notes (on the basis of two studies and their results) similar patterns of relationship between the characteristics of online trolls and elements of the Dark Tetrad. There is a positive correlation with Machiavellism and Psychopathy. However, it is particularly strong in association with sadism. While Golbeck (2014) states that trolls enjoy doing something to make us feel bad where they just want to have fun on the internet, which is their playground, Buckels et al. (2014) describe Internet trolling as an internet manifestation of everyday sadism.

#### **5. CONCLUSION**

Practice shows that for climbing on a hierarchical personnel scale in the corporation and for a position in top management becomes necessary to have the characteristics of the Dark Triad. Machiavellism, Narcissism, and pPsychopathy are negative characteristics of the spectrum of the Dark Triad in the corporate and interpersonal relations, and are both positive and demanded in the corporative and political terms. The assumption is that the future will require even greater efficiency and competitiveness of the workforce. The struggle in the human food chain is going to be even rougher and crueller. Today's children are raised to be the best, and they encourage Machiavellism and narcissistic tendencies, parents prepare them for life as the "battle". Not so long ago, it was challenging for holders of the characteristics of the Dark Triad to hide these traits in front of a prospective employer during the selection for the managerial position. Given the tendency in the future, and the current practice already confirms this, it is no longer necessary. Indeed, it is desirable to have the characteristics of the Triad and managers with such qualities are in demand.

The owner or employer knows that such a person will, without any problems, deal with everything required, that he will withdraw the most unpopular and sensitive moves, including those concerning human destiny. The Dark Triad was no longer sufficient to cover all the essential dark personalities of the individual. The addition is sadism, and together with the Dark Triad, it becomes known as the dark tetrad. It is possible that in the future for the position in the top manager will not be enough to be Machiavellist, Narcissist, Psychopath, and Sadist, but it will be necessary to possess a few other negative traits, in the corporate world a positive and valued characteristic.

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## ENHANCED ADVERTISING AND SEARCH OF MANUFACTURING SERVICES BY SHARED KNOWLEDGE MANAGED APPROACH

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### ABSTRACT

*A key process in agile manufacturing and circular economy-lean industries is ability to quickly discover trusted, and environment- and cost-efficient (re)manufacturing services that match the business requirements. To do so, manufacturing service information communication about manufacturing capabilities and requirements, in both linear and circular economy models, must be more efficiently managed. Existing web platforms for manufacturing service communication face issues and not meeting the needs. They are very heterogeneous in many aspects including use of different vocabularies, taxonomies, level of details, etc. Notably, with such very heterogeneous and dispersed solutions, the manual and repetitive process of manufacturer discovery is prone to cause delays in production cycles and suboptimal competitiveness. Unprecise, unstructured and textual descriptions of manufacturing service information likely to provide suboptimal search results. Many business opportunities are therefore missed and manufacturing capacities and resources remain unused. The main issue is the lack of reference digital platform with shared and formalized manufacturing service knowledge to describe manufacturing capability information in a uniform and standard way, even across federated platform instances deployed in multiple sectors. A shared knowledge based communication of manufacturing service information may create more business collaborations, and positively impact economies, bring wealth and jobs creation. In this paper, we describe existing model for manufacturing capabilities sharing and discovery and summarize its key issues, and then proceed with the discussion of so called ontological (semantic) approaches for manufacturing capability sharing and discovery.*

**Keywords:** *Manufacturing sourcing, Manufacturing capability sharing, Manufacturing ontologies, Circular economy*

### 1. INTRODUCTION

Today, more than ever, the manufacturing service information sharing and discovery is a key business process for agile and resilient manufacturing supply-chains and production networks. Production networks and supply-chains can be unpredictably and suddenly interrupted with unplanned situation, even leading to lockdowns of countries (e.g. due something cataclysmic like a pandemic) and disruption of supply-chains. As a society, we have to find solutions that can improve resilience, at least for critical industries. An access to the right manufacturing service information, at the right time and place, turns to be the valuable advantage. Manufacturing service information describes production processes, quality, capacity, know-how and digital information processing ability. Then, in circular economy sectors, this information is expanded into concepts of circular manufacturing capability, including ability to reuse, share, repair, refurbish, remanufacture and recycle, to “create a close-loop system, minimizing the use of resource inputs and the creation of waste, pollution and carbon emission”. Manufacturing service information communication is multisided and involves many parties

that, however can be categorized into two broad groups of suppliers and customers. A single manufacturer can act as both supplier of manufacturing services and customer of manufacturing services, depending on the actual situation and stage of the supply chain process. Manufacturing service communication and business process around it is supported by the information technology. However, there are limitations in the existing approaches, which are mostly available by means of textual and semi-structured web pages and web shops. Manufacturers publish their descriptions online, on their own web pages or on commercial manufacturing sourcing portals, while customers try to make use of these dispersed and unlinked web descriptions to search for the suppliers that match their needs. This traditional web-page based approach for manufacturing service communication is suboptimal for modern and turbulent economies. In contrast to it, a smart management of manufacturing capability and capacity sharing process, empowered with formalization, knowledge aggregation, automated inferences, semantic matchmaking, may discover and recommend much more business collaborations and positively impact economies, bring more (stable) wealth and jobs creation (savings). As argued in this paper, use of reference ontologies, linked data, and semantic technologies for governance of manufacturing service information sharing, in both linear and circular economy models, creates a shared, linked and formalized knowledge managed ecosystem that can overcome the critical issues of the traditional. This paper is organized as follows. Following this introduction, the second chapter briefly presents the current situation for manufacturing capabilities sharing and discovery, and summarize key issues of the existing situation. Then, third chapter provides review and practical discussion of so called ontological (semantic) and linked data approach for manufacturing capability information exchange, based on the idea of establishing a Wikipedia-like shared and open knowledge base for manufacturing services. Benefits and challenges of the shared knowledge managed approach over the traditional approaches are presented, and put in line with their positive impact for competitiveness development. A final chapter provides concluding remarks.

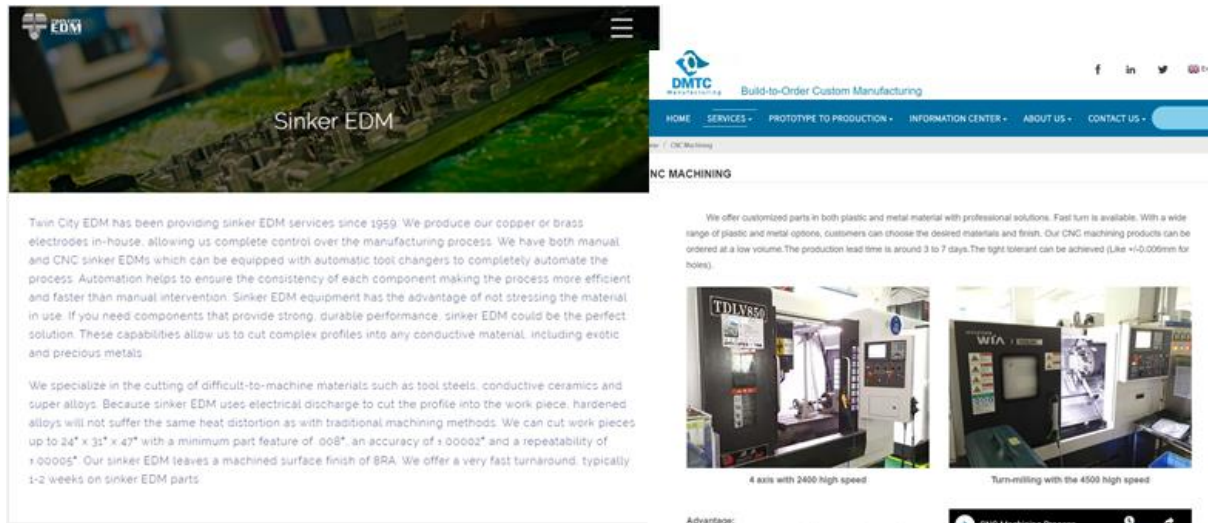
## **2. TRADITIONAL APPROACHES FOR MANUFACTURING SERVICE ADVERTISING AND SEARCH**

### **2.1. As-is model**

The state of the art solutions in manufacturing service information communication domain are twofold. First, there are manufacturer's proprietary web pages (homepages, web sites) that directly advertise their manufacturing service capabilities, capacities, know-how, etc. Within the web pages, manufacturing service descriptions are textual, unstructured, and expressed in different vocabularies with search capabilities based on search engine such as Google or Bing. A figure below shows illustration of those web page descriptions.

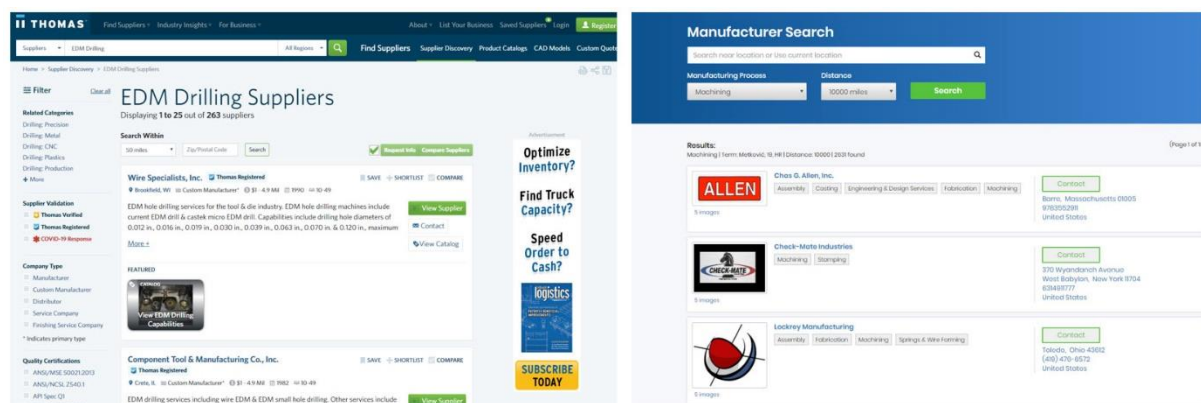
*Figure following on the next page*

*Figure 1: Illustration of manufacturing service web page (unstructured textual description with no semantic annotations)*



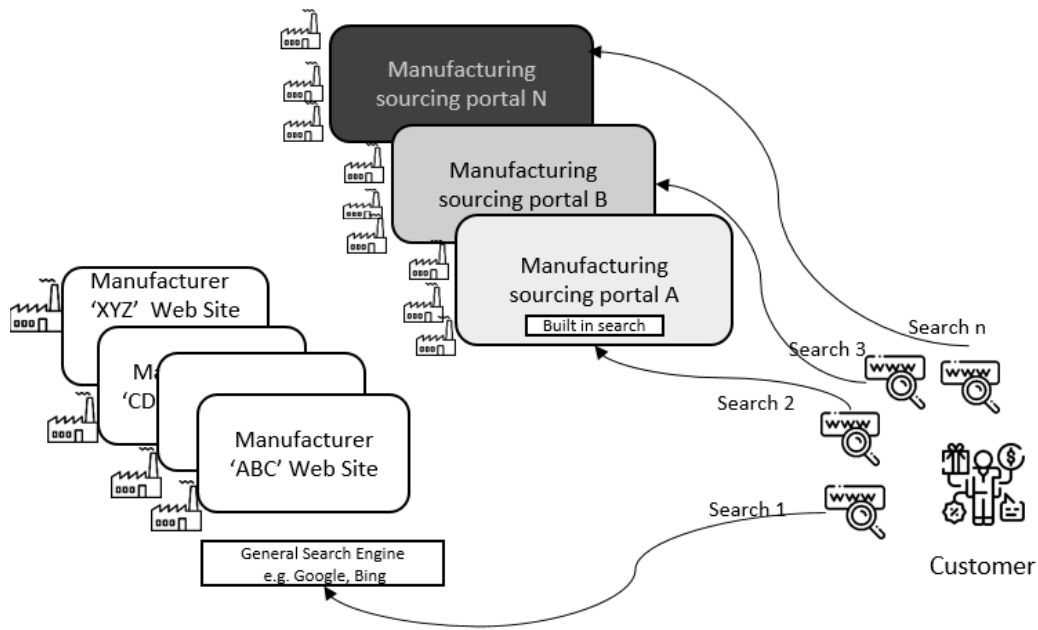
Then, as an alternative to proprietary web pages, there are commercial manufacturing sourcing platforms (similar to yellow pages) where suppliers and customers can create their profiles and subscribe to use the offered capabilities of services advertising, discovery or manufacturing sourcing. There are many different manufacturing sourcing platforms available on the Web, serving various geolocations, industries and manufacturing sectors (Figure 2). Each of those manufacturing sourcing platforms is based on very proprietary vocabularies, thesauruses or taxonomies, also with textual and unstructured descriptions of manufacturing resources. In this case, the manufacturing sourcing platforms provide built-in text-based search and filtering capabilities for customers to find manufacturers or suppliers. A common/uniform (standardized) search interface across different portals is not present.

*Figure 2: Illustration of manufacturing sourcing portals (un/semi-structured textual description with no semantic annotations)*



This current situation is illustrated in Figure 3. The model is very leaned towards the manufacturing sourcing technology providers, not focused on manufacturers and customers. A customer faces very different and many platforms, and, then, a single customer's search request is likely to provide limited results, hence, forcing the customer to make multiple search requests for essentially the same need.

*Figure 3: Dispersed and heterogeneous text-based advertise and search*



## 2.2. Limitations and reduced competitiveness

The presented traditional approach has important issues and is not optimized to meet modern requirements. As said, the communication of manufacturing service information with current approach does happen, but it is based on various proprietary vocabularies, taxonomies, and tagging systems. Then, current descriptions of manufacturing service capabilities are provided in a free-form syntactic representation, either through manufacturers' own web sites and general search engines, or manufacturing sourcing web portals with specialized search engines. The search is syntactic- and text-based and highly depends on the various proprietary vocabularies or models. All this leads to a number of limitations of manufacturing service information communication including semantic ambiguities, low fidelity taxonomies, imprecision, poor expressivity [1], multiple search requests, limited and matchmaking results. The matchmaking is a key task in manufacturing service information exchange. Matchmaking compares the data/parameters that describe the needed manufacturing service (either a process, machine, know-how, by-product, or all of that), as entered by a customer, with description of available services, as entered by suppliers, to detect and rank most suitable suppliers for customer needs. Obviously, matchmaking precision and recall depends on an overall approach taken. Traditional manufacturing sourcing platforms deploy a text-based search algorithms that perform literal matches of the search words or variants of them with words contained in the textual descriptions of production capabilities or capacities. But, a text-based search on informal textual descriptions is a very limited approach if the users want results that precisely, semantically match the search request. Moreover, inference rule creation and execution over textual descriptions, to derive new knowledge, is almost impossible task as textual descriptions are very much unstructured and usually rely on completely different vocabularies. Notably, the manual and time-consuming process of manufacturer discovery and selection is very prone to cause critical delays in production cycles and suboptimal competitiveness in turbulent markets, with negative impact on local and national economies. We argue that one of main limitations is actually the lack of shared and formalized representation and knowledge to describe manufacturing capability information in a uniform and standardized way, with precise semantics of any unstructured and free-text descriptions, in order to enable automated and seamless interpretation of

manufacturing service information and matchmaking between services and needs across different platforms. Currently, with the unprecise and differently represented semantics of described resources, manufacturing capability search process is likely to provide limited and suboptimal opportunities. Descriptions across different web points are unlinked, therefore, many cross-sectorial opportunities are being missed and unused manufacturing capacities remain largely unused over long-period of time, with waste and recycle-able products not inputting to circular models.

### **3. SHARED KNOWLEDGE MANAGED APPROACH FOR MANUFACTURING SERVICE ADVERTISING AND SEARCH**

Semantic enrichment, linking and formalization of manufacturing service information using a shared knowledge models in form of reference ontology is an alternative approach that can help address some of the presented limitations in the traditional approach. This so-called knowledge or semantic-based approach has been presented in number of works including for example [1] and [2]. And there are also emerging platforms, such as MANU-SQUARE (MANUfacturing ecoSystem of QUALified Resources Exchange, [www.manusquare.eu/the-project/](http://www.manusquare.eu/the-project/)) under development within the context of EC Horizon 2020 project, that demonstrate great potential of use of ontologies and semantic matchmaking for manufacturers and supplier discovery. Ontologies as shared and formalized knowledge models provide sound base for unambiguous and structured description of manufacturing resources and their linking and sharing through the digital platforms. Ontology languages such as RDF (Resource Description Framework) and OWL (Web Ontology Language) allow assignment of unique identifiers to manufacturing resources and linking with other resources and knowledge base, thus forming a huge linked data ecosystem, over the Web, based on shared and reference knowledge and vocabulary. On another side, customers having access to such linked data system, can be more efficient in performing the matchmaking between their needs and manufacturing service offerings, as they can access to more resources. The access is semantically unambiguous and uniform. All this is especially important in a case of federated manufacturing service platforms, where information descriptions and information search requests are likely to be exchanged between instances of different platforms (i.e. with different owners, geographical or sectorial targets) that share a common vocabulary. In the rest of this chapter we will explain what ontologies as shared manufacturing knowledge are, and how they improve manufacturing service information communication, thus, increasing the competitiveness.

#### **3.1. Manufacturing knowledge formalization and use**

##### *3.1.1. What are ontologies?*

Ontology, as a formal conceptual model, is a formal explicit description of concepts in a domain of discourse, of properties of each concept describing various features and attributes of the concepts, and restrictions on the properties [4]. An ontology includes machine-interpretable definitions of concepts and relations, for example in manufacturing service domain, and together with a set of individual instances of concepts constitutes a knowledge base [4]. An ontology is called the reference ontology when it is shared formal specification of particular domain conceptualizations [5]. Ontologies allow the resources to be semantically enriched, which is a pre-condition to provide new, advanced services over the web, such as the semantic search and retrieval of resources [6]. Therefore, manufacturing service information communication should build on top of semantic technology and ontologies, leveraging the power of linked data with clear and unified semantics. Ontologies can be of different types – depending on the level of abstraction of concepts, the conceptual coverage of the ontology, or richness of concepts axiomatization. For example, there are foundation ontologies such as DOLCE, SUMO, or OpenCyc that formally axiomatise domain independent (upper) set of

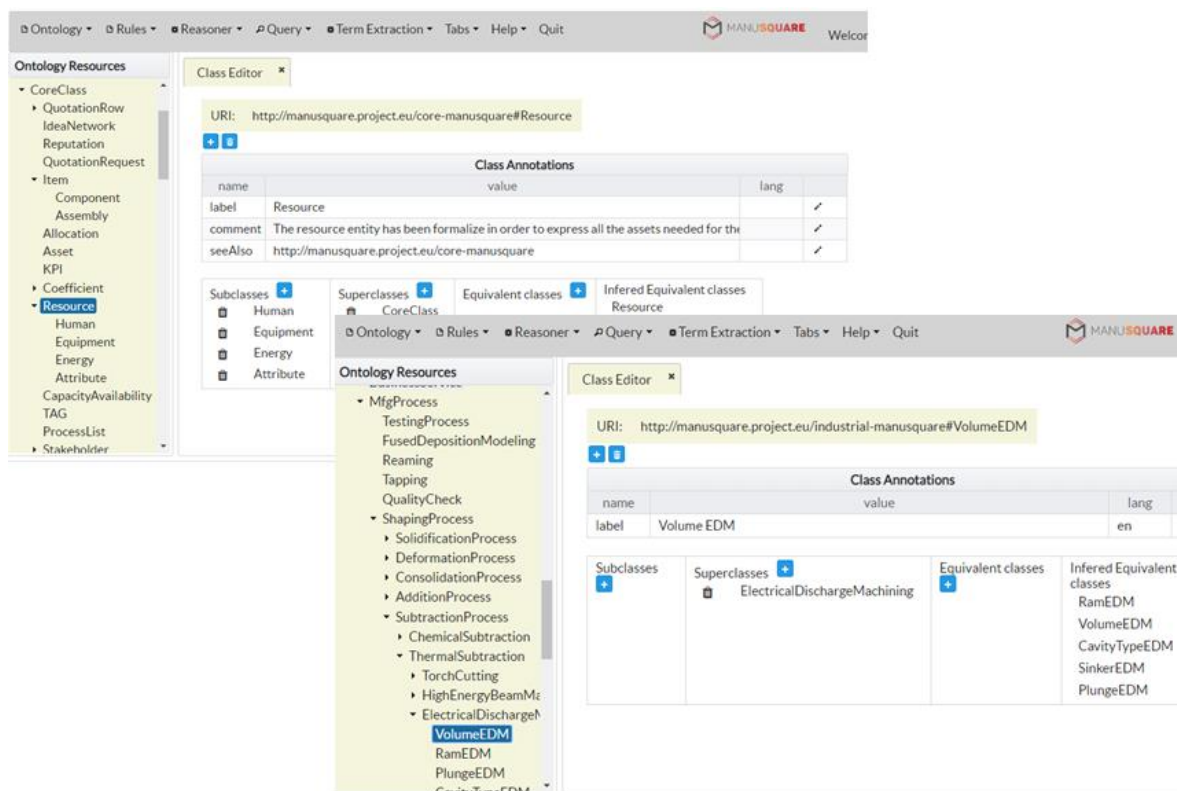
concepts. Foundational ontologies can cover (bridge) every domain in a highly generalized way. Then, there are core ontologies of specific horizontal domains, vertical domain-specific ontologies, vocabularies, or taxonomies. A core ontology provides a set of generic concepts whose semantics are shared across multiple, but not all, domains. A domain-specific ontology, such can be a manufacturing service ontology, provide a set of real-world concepts whose semantics is shared across single domain of interest e.g. manufacturing services description. Finally, a special type of ontology structure is a taxonomy. Taxonomy represent the formal sub-class hierarchical structure of classes or types of objects within a domain, enabling classification of resources. For example, there can be a taxonomy of Material Types, Process Types, Machine Types, Capability Types, Item or Product Types, etc. Several manufacturing ontologies today exist. Although they are built for specific application areas, they, however, can be used as a base for formulation of manufacturing shared knowledge. Table 1 shows several existing ontologies in the domain of our interest. Particularly, Figure 4 shows some core concepts and taxonomies in manufacturing service ontology developed for MANU-SQUARE platform [2].

*Table 1: Manufacturing ontologies*

<b>Ontology name/reference</b>	<b>Description</b>
Ontology Development and Utilization in Product Design [6]	Captures various manufacturing and assembly concepts and to share joining information along with the assembly geometry. Core concepts include Product, Part_material, Feature, Spatial Relationship, Degree of Freedom and Manufacturing Process.
Manufacturing ontology for Functionally Graded Materials [7]	Developed using Basic Formal Ontology and parts of the Ontology for Biomedical Investigation. Concepts include Manufacturing Process, Material Entity, FGM Component Multiplicity, Assembly Process, etc. Domain ontology with Taxonomies (Material Taxonomy, Quality Taxonomy, Processes Taxonomy, Application Taxonomy).
MSDL-Manufacturing Service Description Language MSDL [8] (Ameri and Debasish, 2006)	Core ontology as vocabulary MSDL provides the primitive building blocks required for description of a wide spectrum of manufacturing services. Some of the core classes of MSDL are Supplier, Customer, MfgService, Process, Industry, MfgCapability, MfgResource.
FLEXINET Manufacturing Reference Ontology [9]	Provides core and domain ontologies for manufacturing. Targeted at strategic and tactical level business decisions related to new product development and global production network configuration. The ontology is organized into levels, starting from Level 0, which is upper ontology, going down to more specialized domain and application levels. Captures Product-Service- Production and related concepts.
MCCO - Manufacturing Core Concepts Ontology, or Manufacturing Reference Ontology [10]	A manufacturing core or reference ontology (MRO) that can support the development of semantically sound application-specific ontologies for product design and production domains. Manufacturing concepts are categorised into eight main concept areas. These are Realised Part, Part Version, Manufacturing Facility, Manufacturing Resource, Manufacturing Method, Manufacturing Process, Feature and Part Family.
MASON-Manufacturing's Semantics Ontology [11]	Drafted as a common semantic network in manufacturing domain. Built upon three core concepts: Entities, Operations and Resources. Entities provide concepts to specify the product. Operations relate to process description. Resources stand for the whole set of manufacturing linked resource, like: machine-tools, human resources, tools, etc.
ManuSquare Ontology [2]	A core and domain-specific ontology for manufacturing information sharing developed in ManuSquare, focusing on machining sector with core concepts such as Process, Supplier, Machine, Products, Capability and taxonomies for process types, machine type, product type, capability type, etc.



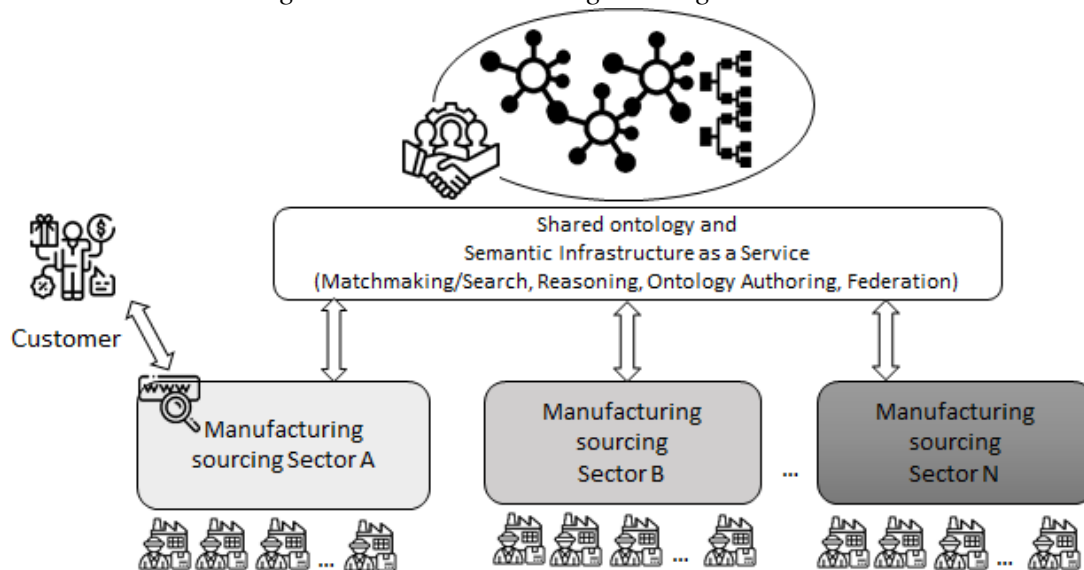
*Figure 4: Illustration of manufacturing service concepts and taxonomies from MANU-SQUARE ontology*



### 3.2. To-be model

Figure 5 illustrates a desired model for manufacturing service information advertising and search, based on shared knowledge. First of all, our position is that there should be a reference manufacturing service ontology that gives unambiguous and reference meaning to the manufacturing service concepts and data. As said, a reference manufacturing service ontology as a shared and machine-interpretable definition of concepts in the domain of manufacturing capabilities, capacity, resources, know-how and by-products sharing and search, together with statements that describe individual instances of concepts, constitute a shared and formal knowledge base. The shared knowledge base enables not only common representation and meaning of otherwise dispersed manufacturing service descriptions, but also rule-based reasoning and inference over asserted data to infer additional relationships and classifications. Such a shared knowledge base in manufacturing service domain can be only built from a continuous contribution of its users, who are actually domain experts, and must remain open source and license free. It can be contemplated as a sort of Manufacturing service Wikipedia, but with structured content that has unambiguous semantic meaning thanks to ontological representation. As we know, Wikipedia ([www.wikipedia.org](http://www.wikipedia.org)) is a free online encyclopedia, created and edited by volunteers around the world. There is also DBpedia ([dbpedia.org](http://dbpedia.org)) that extracts structured content from the information created in the Wikipedia and makes this structured information Web available to semantically query relationships and properties of Wikipedia resources, including links to other related datasets. The principles of Wikipedia and DBpedia are applicable to the content formation and authoring in the manufacturing service domain. Similar effort can be found in the cultural sector where European Union has created a web portal called Europeana (<https://www.europeana.eu/en>) containing common knowledge base in the cultural sector and digitalized museum collections.

Figure 5: Shared knowledge managed search



Next, the computational services, such as matchmaking, search and reasoning, to semantically query relationships and properties of manufacturing service descriptions in a uniform and standardized way, should be made available to all interested manufacturing sourcing platform providers. These core services can be offered by a centralized or federated semantic infrastructure through software-as-a-service model, or by publishing an open source and free libraries for platform providers. With this proposed model based on shared ontology and vocabularies, manufactures will be publishing their capabilities in a uniform and standardized format, thus, creating a still decentralized but linked semantic data ecosystem. The consumers will be able to formulate their search request also using the same vocabulary of the shared ontology, or vocabulary that is semantically linked and aligned to shared ontology. In contrast to traditional model from Figure 3, a large number of different search request formulations, for the essentially the same production requirements, can be reduced to the single formulation. Then, the same search request can be executed over one or more manufacturing sourcing portals. But this depends on the federated querying ability and willingness to adopt this solution. With federated querying, the search can be performed upon many platforms within single request, thus, bringing more results to the consumer.

### 3.3. Benefits and enhanced competitiveness

There are several important advantages and benefits of the manufacturing knowledge sharing through reference ontologies and semantic annotation of manufacturing service descriptions. First of all, the reference manufacturing service ontology give unambiguous meaning to the manufacturing service descriptions. Ontological representation enables rule-based reasoning and inference that may automatically classify manufacturing services and resources, infer non-asserted facts and relationships, and even to detect inconsistent statements. By using semantic descriptions of manufacturing services and inference rules, it is possible to computationally infer uncomplete, missing facts or new facts<sup>1</sup>. There are many examples of this in manufacturing service domain. For example, if a customer requires a hole aspect ratio (a hole depth-to-diameter ratio) more than 10, then the qualified supplier should provide Deep Hole Drilling for creating the hole.

<sup>1</sup> An inference reasoner derives additional facts from the descriptions, driven by the rules, and turns these additional facts into useful knowledge. The inference rules may make explicit previously not stated (unknown) facts about resources and their relationships.



Obviously, a customer does not need to know what process operation is required to produce the hole, but the operation can be inferred using domain-specific rules. In summary, by declaring and executing domain-specific inference rules, new facts about resources are created and, in turn, chances to create new production opportunities get higher. Further, a supply-demand matchmaking with ontologies largely exploits the domain-specific ontologies and captured semantics. In contrast to keyword-based search that is traditionally applied to yellow pages and product catalogs, the matchmaking that builds on the semantic similarity computation provides a higher a measure of search precision and recall than the text-based search, especially over structured content [12]. The semantic search approach exploits semantic, formal, unambiguous and structured description of manufacturing services and utilizes semantic relationship to compute semantic similarity between the search request and supplier profiles. And this is likely to provide better search results than keyword-based search. A hybrid approach that combines keywords and semantic searches could even be the best one [13]. Even more, as illustrated in Figure 5, using a shared and linked ontology as a reference knowledge base in federated and cross-sectorial environment, is likely to discover hidden cross-sectorial business opportunities. And, this is particularly true in circular economy settings, where a waste in an industry sector can be a key resource for another industry sector. Then, as circular economy is becoming an increasingly important concept nowadays, it must be supported by the advanced manufacturing service information sharing platforms. Manufactures must be able to express their reuse, sharing, repairing, remanufacturing, recycle capabilities and needs. This information is typically very dynamic part of manufacturing service information because new knowledge and new technologies in manufacturing/production domains are quickly evolving. For example, ability to use by-products or waste from one process as input for another process may suddenly emerge due announcement of new technology, new know-how or new remanufacturing/recycling process by R&D teams. Domain-experts could add new inference rules on top of shared knowledge base and manufacturing service descriptions to infer all new business opportunities that shall create a close-loop system, minimising the use of resource inputs and the creation of waste. The platform itself must be promoting circular and green economy opportunities. Finally, manufactures look for the platforms and models that can ensure resilience to disruption supply-chains. With manufacturing service information that is structured and semantically annotated with shared ontologies, and implementations of the reference platform, it will be much easier to reformulate matchmaking requests to discover new, local companies to collaborate with.

#### 4. CONCLUSION

In this paper, we have briefly outlined main issues and challenges around manufacturing service information communication process, particularly in the sense of an emerging need for the digital platforms that can cope with desired efficiency of matchmaking between supply and demand. The future digital platforms should not be just isolated yellow pages or web applications, using different vocabularies to describe resources, service, products, or know-how, but rather knowledge-based, linked, unified and comprehensive platforms acting as a one stop shop for both the traditional and circular manufacturing model, focused on both local supply-chains and cross-country ones. One of the key enablers for advanced platforms is a formalized knowledge and shared ontology about manufacturing service domain, to reduce limitations of traditional platforms and to enable seamless information sharing and search, even in the cross-sectorial scenarios. Building such a comprehensive ontology and knowledge base can be a tremendous effort for a person, even for a company. Hence, the knowledge must be accumulated in way that is obtained from the volunteers and contributions of platform users, who are the domain experts, while they interact with the platform and enter new concepts and describe new resources. So, in a Wikipedia-alike manner.

However, there of course should be a governing body that would be in a position to amend and author the contributed content. Content authoring needs toolset based on natural language processing, classification and machine-learning algorithms to automate manual and repetitive human tasks as much as possible, and to detect inconsistencies. But the possible benefit of having the proposed manufacturing service knowledge base is huge; with shared knowledge base, inferences on top of linked and semantic manufacturing service descriptions, more and more previously hidden or unstated collaboration opportunities are likely to be discovered and recommended. Also, the new business models are likely to emerge. Finally, our hope is that there will be consensus and willingness at the higher-political level to support the initiative to create common knowledge base in the manufacturing sector. It's encouraging as EU has supported creation of Europeana knowledge base in the cultural sector. It might follow similar strategies for other key economic sectors, such as manufacturing. On another side, although there are funding for projects to develop B2B platforms, there is no a coordinate approach and a clear objective yet.

**DISCLAIMER:** Any mention of commercial companies or commercial products within this paper is for information only; it does not imply any recommendation, evaluation or endorsement by the authors, nor positive or negative opinion.

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## CONSCIOUSNESS FROM MAKING THE TRAVEL DECISION UNTIL SHARING THE ADVENTURES

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### ABSTRACT

*Travelling is a tool to increase our awareness about the world and they can be also engines to make a change in our lives. However, this consciousness is also inevitable through the whole process of a journey. For today, it is obvious for most travelers, that they are also responsible for themselves and cannot wait for other entities: for the states, international organizations, tourism service providers to guarantee their safety and security. From the first point: from making travel decisions it is crucial to be cautious and collect all information about the desired destination and the possible safety and security risks, threats to be faced. All the necessary measures must be taken from this point till the “post-travel phase”. It can embrace a wide range of activities: gathering information, digging into the cultural background of the destination, asking for vaccination, or at the site simply avoiding certain dangerous places. However, it has to be noted, that when travelling a lot of people tend to forget about cautiousness, since going on holiday means for some travelers leaving the barriers and obligations behind – at home. The aim of the paper is to examine the basic general fundamental obligations of the travelers before, during and after their journeys. The results of a survey conducted among Hungarian travelers are also featured, which highlight the consciousness and awareness of the respondents. The article also focuses on, if there are any differences between the generations and genders in this respect in Hungary.*

**Keywords:** *Tourism, Consciousness, Awareness, Travel decision, Preparedness, Safety and security*

### 1. INTRODUCTION – TRAVEL RISKS AND THE RESPONSIBILITY OF TRAVELLERS

When making travel decisions, risks are always in the center. Several kinds of risks are threatening the travelers, when taking a trip. Based on the literature, the following risks can be identified: physical, local safety, time-, financial and environmental risk, natural catastrophes, political instabilities, social, psychological risk and terrorism. (Mansfeld – Pizam, 2006; Breda – Costa, 2005; Karl – Schmude, 2017; Sönmez – Graefe, 1998, Fuchs – Reichel, 2011; Carballo et al, 2017) (See Figure 1).

*Figure following on the next page*

*Figure 1: Different risk types threatening travelers*

*Source: Mansfeld – Pizam, 2006; Breda – Costa, 2005; Karl – Schmude, 2017; Sönmez – Graefe, 1998, Fuchs – Reichel, 2011, Carballo et al, 2017*

Most people take the risks into consideration before making their travel choices. Of course, all travelers have a different risk-perception. Several studies in the literature concentrated on the risk perception of travelers regarding different factors. From the 11th September, 2001, attitudes concerning terror attacks have got into focus (Bacon, Buzinde, 2019; Baker, 2014., Fischhoff et al., 2004.). According to Garg (2015) safety, peace and stability are in the spotlight, while Gray and Wilson (2008) emphasize the importance of political stability. If travelers want to minimize risks concerning travelling, they have their responsibility, as well. They cannot simply wait for the states, the destination, different organizations to guarantee their safety and security; they have to do their share as well. If they want to make a conscious decision regarding the destination choice, they have to make some research about the destination itself and make all the necessary precautionary measures. This kind of consciousness would be a basic requirement during the whole travel process: from the phase of decision-making till sharing the travel memories after the journey. (See Table 1)

*Table following on the next page*

*Table 1: Some safety and security precautions from the travelers' side*

<b>BEFORE TRAVEL</b>	<ul style="list-style-type: none"> <li>making the necessary health precautions</li> <li>visiting a travel health professional,</li> <li>getting the necessary medicaments;</li> <li>vaccination, if needed;</li> <li>travel health insurance;</li> <li>travel kit</li> <li>the available medical services of the destination</li> </ul>
	<ul style="list-style-type: none"> <li>collecting information about the culture and customs of the destination</li> <li>e.g. about cultural rules</li> <li>local customs</li> <li>religious rules</li> </ul>
	<ul style="list-style-type: none"> <li>collecting information about the safety and security circumstances of the destination</li> <li>about dangerous places to avoid</li> <li>about typical scams and frauds</li> <li>the most important telephone numbers in emergency situations</li> <li>the availability of the embassy, consular service</li> </ul>
	<ul style="list-style-type: none"> <li>checking the official website of consular service/the Foreign Ministry about destinations not recommended to travel to</li> </ul>
	<ul style="list-style-type: none"> <li>registering the journey to a foreign country at the consular service</li> </ul>
	<ul style="list-style-type: none"> <li>giving our travel plan to our family members, who stayed at home</li> <li>with important data</li> <li>the availability of accommodation</li> <li>the scheduled time</li> </ul>
<b>DURING TRAVEL</b>	<ul style="list-style-type: none"> <li>avoiding dangerous places</li> <li>avoiding abandoned or poorly lit places at night</li> </ul>
	<ul style="list-style-type: none"> <li>general and special health precautions</li> <li>responsible food and beverage, water consumption,</li> <li>general hygiene precautions,</li> <li>safe and responsible sexual behavior</li> </ul>
	<ul style="list-style-type: none"> <li>not to take valuable items or a lot of money with themselves and not to put them on display</li> </ul>
	<ul style="list-style-type: none"> <li>travelers should be careful with alcohol consumption</li> </ul>
	<ul style="list-style-type: none"> <li>being responsible on social media: with posts, photos</li> </ul>
	<ul style="list-style-type: none"> <li>should not forget about being cautious – even on holiday</li> </ul>
<b>AFTER TRAVEL</b>	<ul style="list-style-type: none"> <li>sharing the adventures on a responsible, fair way</li> </ul>
	<ul style="list-style-type: none"> <li>visiting doctor immediately when getting sick</li> <li>giving information about the travel as well</li> </ul>

*Source: Own compilation based on Marton et al., 2019; Glensor, Peak, 2004.; Mansfeld – Pizam, 2006*

## **2. THE THREE PHASES – BEFORE, DURING AND AFTER-TRAVEL-PHASE**

The responsibility of travelers towards their own safety and security starts a lot before, the journey really starts. The UNWTO Global Code of Ethics, – and now the UNWTO Convention on Tourism Ethics as well – declares, that tourists are responsible »to acquaint themselves, even before their departure, with the characteristics of the countries they are preparing to visit; they must be aware of the health and security risks inherent in any travel outside their usual environment and behave in such a way as to minimize those risks.« (UNWTO Global Code of Ethics, Art. 1. 6. 1999.)

When preparing for a travel – with special regard to a foreign one –, it is essential to study the culture of the destination, since »cross-cultural misunderstandings can potentially increase through exposure to the »other«, especially in the context of cultural appropriation and recreational hedonism« (Lew, 2018, p. 743). Being aware of the special culture, the different religious, ethical, etiquette rules, even the accepted clothes at certain places of the destination is crucial to avoid conflicts. They are important elements for tourists to be safe, since behavior that does not respect the above mentioned rules can hurt local population and lead to conflicts with them. To be familiar with the culture of the destination even has an interesting effect on the risk perception on travelers: the research results of Fourier et al. (2020) show, that a more thorough knowledge about the destination limit the negative outcomes of higher level of security threats like crime, terrorism or corruption. Getting the information about the safety and security of the destination is also a key postulate: which are the most important dangers, the dangerous places for a foreigner to avoid. In this process the website of the foreign ministry and the local authorities have key importance. Collecting the important information before travel is not a hard job anymore, when modern information technology is at our disposal. In our modern times, when technology rules over nearly all aspects our lives, social media have become an essential source of information for travelers – and also from the other side a basic promotional tool as well. (Berhanu, Raj, 2020; Kang – Schuett, 2013; Xiang – Gretzel, 2010). Making the necessary health precautions also falls into the first category of safety measures. Visiting travel health professionals before the planned trip gives an opportunity to give advice and knowledge for the traveler about the possible health risks, and how to solve the arising problems. (Gerstenlauer, 2019, Cornelisse et. al., 2019) This pre-travel consultation must be personalized, and several factors have to be taken into account: the past medical history, the special conditions, former vaccination, the type and features of the journey: the itinerary, timing, the reasons to travel. (Centers for Disease Control and Prevention, 2018. cited by Gerstenlauer, 2019) Getting vaccination – if it is necessary – or getting a travel health insurance are also important steps in reducing the health-related risks. Travelers must be prepared/must prepare for the journey depending on their illnesses (e.g. children with special health-care needs: Kohl – Barnett, 2019, Gerstenlauer, 2019) or special health status (e.g., pregnant women: Cooper, 2006., disabled travelers: Bauer, 2018); their age (e.g. older travelers: Gerstenlauer, 2019, children: Waasdorp – Kim, 2007, families with children: Sainato et. al., 2015). Chiodini (2015) suggests, that taking part on an education about CPR (Cardiopulmonary resuscitation) would be a really useful skill to acquire for travelers. A first aid course to take would be really advised for people, who are taking part in more adventurous trips. More researches were carried out about the health-awareness of travelers. They concluded, that however, a big ratio of travelers are making some kind of health-related precautions: eg. collecting information, however, when it comes to concrete actions (e.g. vaccination), this ratio is much lower (Toovey et al, 2004; Van Herck et al. 2004, Kalanlar et al. 2018). This consciousness should not be left at home, either. Tourists can do a lot for their safety and security during the journey as well. They should not lose their control, should avoid excessive consume of alcohol, and avoid dangerous, abandoned places. In the interest of their health safety the general health precautions, hand hygiene and the responsible sexual behavior is compulsory – even during holiday-time. During and after the travel responsible adventure-sharing, posting, sharing photos in social media would also be crucial.

### **3. DATA COLLECTION AND RESEARCH METHODOLOGY**

This paper draws on quantitative data from an online survey conducted with 206 Hungarian respondents under an omnibus research in Autumn 2019. Due to the current COVID-19 world epidemic, the date of the survey gets even more importance than ever, since the epidemic has fundamentally changed the consumers' behavior, consciousness.

Regarding the demographics of the survey sample, the 74,35 percent of the respondents was female, 25,7 percent was male. Most of them (89%) belong to the Generation Z born between 1996 and 2010, Generation X (1961-1981) and Generation Y (1982-1995) represent 23,3 and 24,3 percent, respectively. Baby Boomers (1943-1960) represent only 9,2 percent in the sample. (Komár, 2017)

*Table 2: Demographic features of the sample*

	n	%		n	%
<b>Generation</b>			<b>Occupation</b>		
Baby Boomers	19	9,2 %	Student	71	34,5 %
Gen X	48	23,3 %	Entrepreneur	5	2,4 %
Gen Y	50	24,3 %	Public sector employee	42	20,4 %
Gen Z	89	89 %	Private sector employee	82	39,8 %
			Retired	4	1,9 %
<b>Gender</b>			Other	2	1 %
female	153	74,35 %			
male	53	25,7 %	<b>Education</b>		
			Primary school	6	2,9 %
<b>Frequency of travel</b>			Secondary school	133	64,6 %
not every year	3	1,5 %	College/ university	64	31,1 %
1-2 times a year	133	64,6 %	Postgraduate/ PhD	3	1,5 %
3-4 times a year	39	18,9 %			
> 4 times a year	31	15 %			

*Source: Own compilation based on the survey data*

The research aimed to reveal the consumer behavior of the Hungarian respondents from the consciousness' point of view with special focus on safety and security issues during their holiday (before and after, too). It is vital to note the limitations of the survey: the questions were not asked by phase by phase of travel, however, they could be easily categorized into the different travel phases based on the statements and the literature review. Furthermore, the sample is not representative for the Hungarian population, either. The following research questions were drafted:

- RQ1: How conscious are the Hungarian travelers before and during traveling?;
- RQ2: Can any difference be detected by demographics like generation or gender?

To get reply for the research questions above, descriptive and simple statistical relationship analyses were done. The statements referring to consciousness had to be evaluated on 5-point Likert scales by the respondents.

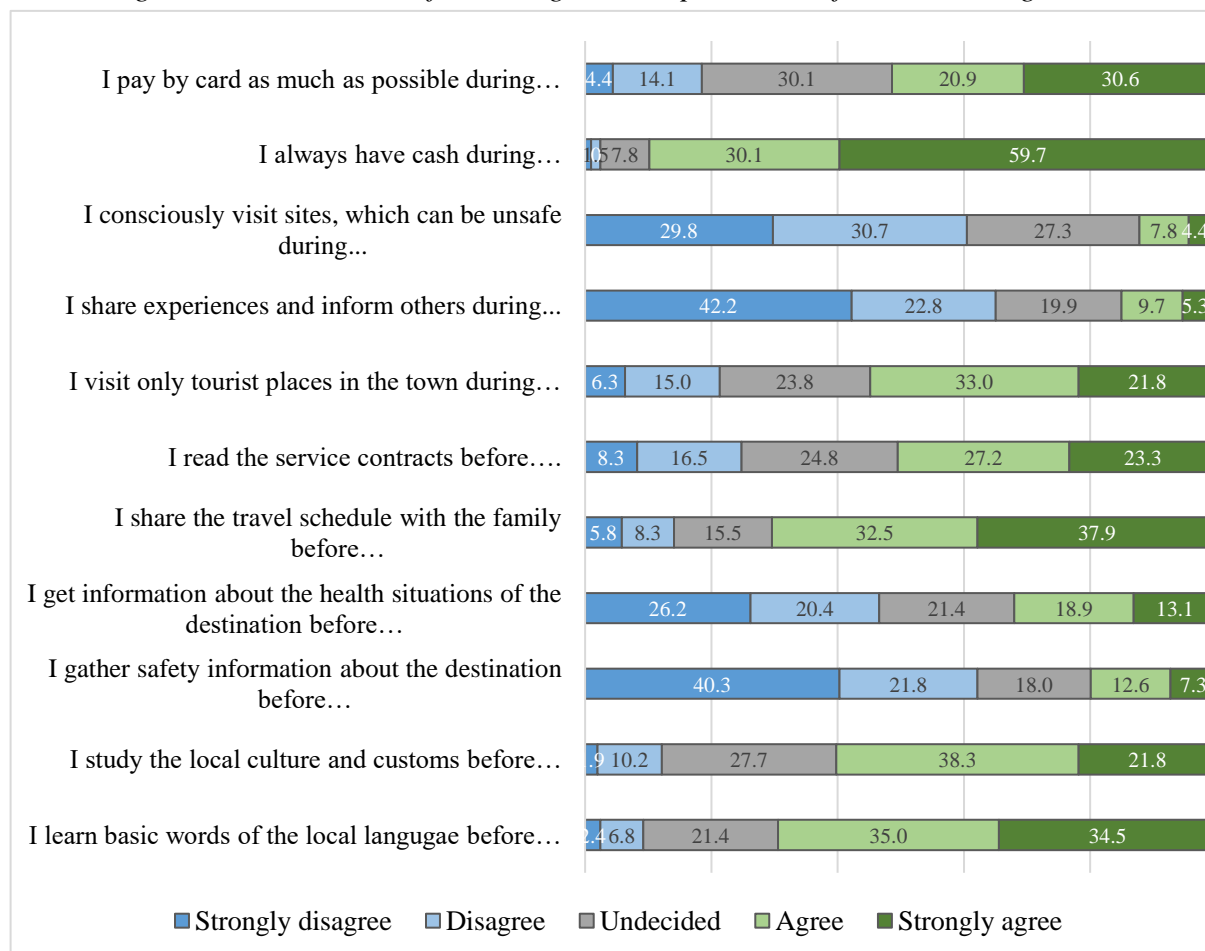
#### 4. RESULTS

As in Chapter 2 it was detailed, that the general travel process builds up of three phases: before, during and after-phase. Before traveling, potential tourists have to cope with the decision-making process, which is a very complicated procedure in itself, because tourists have to consider many factors. Of course, the importance of factors can differ by person by person, nevertheless, the significance of safety and security in tourism has appreciated in the last two decades, and certain aspects (like health safety) will acquire more attention from now on. The survey results underpin the previous consumer trend in tourism, hence, in travel decision making, the factor of 'safety and security' is on the first place concerning importance (avg. score is 4,32 on 5-point scale), followed by novelty (3,91) and by weather conditions (3,72).



Being aware of risks can alter the decisions. For instance, traveling alone is getting more popular, however, those respondents who do not plan to travel alone, almost the third of them is considerably influenced by safety and security issues in their decisions. Safety and security are strongly connected to consciousness of the tourists; the behavior of the tourists reasonably determines the degree of risk they encounter. Before travelling, people can prepare for the possibly occurring risks by getting information about the destination and the type of travel in advance, and so, they can mitigate the risk with their conscious behavior. In our research, we investigate the Hungarian tourists' behavior before and during the travel through different statements.

Figure 2: The behavior of the Hungarian respondents before and during travel



Source: The Authors' own compilation

Based on Figure 2, the 69,4 percent of the respondents learn basic words of the local language of the destination where they travel to; 60,2 percent do study the destination's culture and customs of the residents in advance. These proportions can refer to a quite conscious behavior that helps keeping off from cultural misunderstandings. In case of gathering safety information about the destination before travelling is not really typical for the respondents, because 62,1 percent of them do not deal with it, even tough, in their travel decision 'safety and security' are the most important factors. Almost three-quarters of them inform the family or friends about the travel plan before travelling, but only one-third of the Hungarian tourists get information about the current health situations of the destination that will be change in the future, for sure. Concerning how conscious and cautious are the tourists about service providers, the half of them read service agreements.

The next phase of the travel is the on-site behavior. People can make a lot for safety in advance with various precautions, but how they act and react on the destination are also very crucial. Visiting dangerous places is getting more popular, especially for the sake of the community of the social media, where posts from risky sites attract others' attention and likes. The 65 percent of the Hungarian tourists avoid visiting places known as unsafe. Whether a place typically for the tourists or a place outside the tourist district is more dangerous, usually depends on destinations. Approximately 50 percent of the tourists involved in the survey said they usually visited only those sites in the town, which are officially dedicated for tourists. In our accelerated world, where everybody is always connected, and they post on social media, due to safety and security reasons, only 15 percent share the experiences with others. The 89,8 percent of the tourists always have cash which probably provides safety for them, but still half of them prefer paying by card whenever they have the opportunity for that. Analyzing the data according to demographics, differences could be identified. For the analyses, crosstabs and ANOVA tables were run that justified the discrepancies between generations. In most cases – regarding the above detailed aspects of consciousness – the generations do not show significant difference according to Pearson Chi-Squares for crosstabs and LSD post hoc tests for ANOVA analysis. Both Chi-Square and ANOVA tests proved the significant relationship between generations on 5 percent significance level in the following cases:

- Gathering safety information in advance ( $\chi^2$  test,  $p=0,006 < 0,05$ );
- Obtaining information about the health situation of the destination ( $\chi^2$  test,  $p=0,05=0,05$ );
- Always having cash ( $\chi^2$  test,  $p=0,001 < 0,05$ ).

While ANOVA tests show differences in further one case : paying by card as possible. (See Table 3)

*Table 3: ANOVA table for the agreement of statements related to conscious behavior of generations*

ANOVA		Squares	df	Square	F	Sig.
I obtain safety information about the destination before travelling.	Between Groups	31,253	3	10,418	6,678	,000
	Within Groups	315,120	202	1,560		
	Total	346,374	205			
I get information about the health situations of the destination before travelling.	Between Groups	18,954	3	6,318	3,447	,018
	Within Groups	370,274	202	1,833		
	Total	389,228	205			
I always have cash during travel.	Between Groups	7,074	3	2,358	4,032	,008
	Within Groups	118,116	202	,585		
	Total	125,189	205			
I always pay by card if I can.	Between Groups	14,773	3	4,924	3,644	,014
	Within Groups	272,975	202	1,351		
	Total	287,748	205			

*Source: Own compilation based on the survey data by IBM SPSS 22*

The significant difference is mostly outlined between Gen Z and the other elder generations. For instance, approximately 80 percent of the Generation Z do not generally gather information about the target destination before traveling, while this proportion is about 40-50 percent in the elder generations. The tendency is similar in case of health safety issues, the youngest generation (Gen Z) puts the less effort to get informed about the health situation of the destination. Having cash during travel is preferred by Gen Z the most, the 94,4 percent of the respondents in this generation find it essential. Not only the generational attributes can cause differences in the behavior, but also gender differences can be found based on the results, however, only in case of the followings:

- Learning some words of the locals;
- Studying the local culture and customs.

In both cases, female respondents assigned more importance to the steps taken in the before-phase of the travel process, as the ANOVA analyses showed.

*Table 4: ANOVA table for the agreement of statements related to conscious behavior according to gender*

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Learning basic words of the local language	Between Groups	9,059	1	9,059	8,984	,003
	Within Groups	205,699	204	1,008		
	Total	214,757	205			
Studying the local culture	Between Groups	4,993	1	4,993	5,200	,024
	Within Groups	195,861	204	,960		
	Total	200,854	205			

*Source: Own compilation based on the survey data by IBM SPSS 22*

## 5. CONCLUSION

Making decision about a destination or a travel type is up to many factors and conditions. The majority of the tourists base their safety and security on the local government during their travel. Of course, the management of the destination can take numerous measurements to prove the safety and security of the tourists, however, everybody is in charge of their own decision and acts. Being responsible for ourselves already started with the conscious thinking before leaving for a trip. The three phases – before, during and after – include different suggestions and precautions, which could support the mitigation of risks on site (on holiday). Based on the results of the non-representative sample, the respondents behave in a moderately conscious way. By analyzing the effects of demographic factors, Gen Z is outstanding from the others in some points (payment opportunities and information collection), while gender differences showed up in case of studying local language and culture. All in all, this paper found out that the Hungarians, just as the travelers of other countries, need to be more responsible and conscious, especially in crisis situation. The current epidemic (COVID-19) has changed everything in the world and in the tourism sector too, so the education of people is required more than ever, to increase the level of responsibility for themselves and others.

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## AUGMENTED REALITY AUGMENTATION OPPORTUNITIES IN ORIENTEERING

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### ABSTRACT

*Orienteering is a group of sports that require navigational skills and as a sporting event increases the number of tourist destinations in Croatia. With the help of maps and a compass, the aim is that the runner tries to find all the checkpoints in the shortest possible time. With its geographical diversity, soil configuration and different vegetation, every competition in Croatia feels like a unique experience. Orienteering has seen increasing number of fans of different age groups, who are competing in races which are predefined in annual calendars. The global growth and development of the sports industry contributes to the overall economic development, and the increasingly advanced racing tracking technology and sports equipment used by runners enables the organizer and runners to have an interesting and exciting sports competition with themselves or in pairs and in groups. Outdoor sports are on the rise and increasingly popular in all their forms, both in the world and in Croatia. Orienteering is a sports activity that takes the whole family into nature and allows them to spend an active day or weekend in new places with different requirements and tasks, which enables them to spend a day in a healthy sustainable environment. At the same time, the same form of sporting activity is becoming more and more popular in the education of all age groups, from kindergarten to student population. New augmented reality technologies add value when conducting competitions. The aim of the work is to introduce innovative multimedia content into the increasingly popular sports activity that is accessible to the whole family and in a new and innovative way facilitate the implementation of orienteering. The paper presents a possible solution of the application and gives ideas for the further development and its application in orientation running, as well as its application in other segments of orientation movement.*

**Keywords:** *Augmented reality, Nature, Orienteering, Sport, Tourism*

### 1. INTRODUCTION

Orienteering involves moving with the help of a topographic map and a compass (Figure 1) in unfamiliar racing terrain with preset checkpoints drawn on the map. (I. Gobec, D. Gobec, 2003). The maps are usually drawn on a scale of 1: 5000, 1: 10,000 or 1: 15,000 and contain many details for ease of reference in this area. In order to promote orienteering, competitions are increasingly organized around city parks and streets, surrounding forests, meadows with different vegetation and soil configuration. Checkpoints are predefined and set and plotted on the map that the runner receives immediately before the race. At each checkpoint there is a three-sided prism flag (Figure 2). Confirmation of arrival can be of the simplest form by filling in a checkbox with a certain color located at the checkpoint, a perforator with which the

competitor perforates the control card, thus proving that he has visited a given point or electronic chips, thus registering the passage of the competitor electronically. (Gobec D, Gobec I. 2005). The layout of checkpoints is mostly not defined, the competitor himself chooses which order to go to checkpoints. The result depends on the ability to read the map and physical fitness. The time spent on the course is measured, and the competitors who have passed the course in a shorter time and find all the checkpoints are considered better. Orienteering requires competitors to have endurance and good motor skills due to the challenging terrain on which the race takes place. Cognitive abilities are very important, above all in visualizing the terrain on which the race is held and the topographic maps they have with them, as well as orientation and orientation in space. Some of the benefits and benefits of orienteering, most notably the accessibility and acceptability of orienteering for all ages, regardless of prior knowledge and their psychophysical fitness (fitness) are:

1. Outdoor activities in nature or in city parks;
2. Favorable influence of all weather parameters (sun, wind, rain, water, air, altitudes);
3. Multiple involvement of the whole organism of participants (physical and mental);
4. Reducing the stress we are exposed to in our daily lives;
5. Accessibility and accessibility to this sport (orienteering).

Orienteering can be held on relatively small terrain, for example the vicinity of the Polytechnic, such facilities are acceptable in physical and health education classes and other courses related to sports but also in the physical and medical culture in secondary and primary schools. (Jenko, 2008). This allows access to each student participant. Individual dosage, distribution and load control provide the opportunity to influence the anthropological status of each individual.

## **2. ORIENTATION COURSE DISCIPLINES**

By introducing the component of competition into orienteering, this type of running gets a sport feature with the aim of finding control points in the shortest possible time - running. The competition itself takes place within the set rules and regulations. Athletes runners compete in categories, of different types of competition, winning the placement (by finding all checkpoints and measured time of arrival at the finish line). The competitions are held by age categories (10 to 90 years), by age group, and are divided by gender into male and female categories and by knowledge of the basics of orienteering: A, B, C categories and E for elective members types. And the beginner category:

- B category beginner;
- C category;
- E category elite.

The Orienteering World Championships have been held since 2001 in the following disciplines:

1. Sprint (10-15 min winner time);
2. Short track (25 min);
3. Long run (winner time 80-90 min. Male and 60-70 min. Female);
4. Relay of 4 members.

The length of the course in each discipline depends on the category in which the competitors compete and the type of terrain, and within each category the length of the course is determined by the predicted time of the winner.

## **3. ORIENTATION RUNNING BEGINS**

Orienteering occurs at the beginning of the last century as a military skill in reading the map, moving on unfamiliar terrain, and conditioning. If we look at the development of the orientation

skills of other countries, we will notice a strong connection with the military of a particular state. For the Army, it is vital to develop the orienting capabilities of each soldier as individuals, and especially the command staff that coordinates a particular unit. (Giljanović, Jurić 2014). The same skills were passed on to younger generations through extracurricular / extracurricular activities Scouts - Scouting (orienteering - one of the skills learned as part of a series of scouting activities), and gradually gained popularity among hikers, runners and walkers among the rest of the population. The beginnings of the development of orienteering in Croatia go under the auspices of mountaineering 80 years ago, in 1939. (issuu.com. 2020). Knowledge and ability to orient (navigating at an unknown moment with the help of a compass, map, hiking marks, natural landmarks) is very important when navigating a mountain and just navigating through it, so it is not surprising that orientation has its origins in mountaineering. Today, about 2 million people from 8 to 80 years of age are competing in Orienteering in about 50 countries on all five continents.

#### **4. PRECISE ORIENTATION**

Precise orientation is a sport that involves interpreting the map and terrain. Competitors visit the checkpoints marked in the field in the order or according to their choice. The checkpoint is marked with a set of flags, but only one flag is located exactly as described in the middle of the circle on the map and the description of the control, and other flags are placed somewhere nearby (Gobec and Gobec, 2013). Competitors should only navigate the paths and observe the terrain, which means that they must not navigate the designated terrain / area on the map before starting. From 1 to 5 flags can be placed at one control point, and they are denoted by letters A, B, C, D and E. From left to right. map (the so-called "zero" or "Z" answer). Using a map for orientation with the help of a compass and interpretation of the terrain, the competitor solves the task: which of the flags is placed in the correct place, exactly the one in the middle of the circle on the map as described in the control descriptions. In the precise orientation of motor ability, strength and speed are not decisive, so all competitors can compete equally regardless of age, gender or physical fitness. That is why this discipline is suitable for people with disabilities and can compete with all other participants in the race. The only division into categories is by competitor experience: E (elite), A, B and N (beginners). We distinguish between two disciplines: PreO and TempO. In TempO, the form of the map must be round or square. The circular map has a diameter of between five (5) cm and twelve (12) cm, a square map has sides between five (5) cm and twelve (12) cm. All tickets at all stations must have the same shape and size. The map scale must be 1: 5000 or 1: 4000. (Giljanović, Jurić 2014). All tickets for a single competition, including those for time controls, must be the same scale. The map must be attached to a hard material that is larger than the map. The time that the competitor measures between goal and start is irrelevant to the result. The winner is the one with the most correct answers and the least measured seconds on special time controls that measure the competitor's time to make a decision. The map must be attached to a hard material that is larger than the map. The time that the competitor measures between goal and start is irrelevant to the result. The winner is the one with the most correct answers and the least measured seconds on special time controls that measure the competitor's time to make a decision. The map must be attached to a hard material that is larger than the map. The time that the competitor measures between goal and start is irrelevant to the result. The winner is the one with the most correct answers and the least measured seconds on special time controls that measure the competitor's time to make a decision.

#### **5. CONTROL POINTS**

The marked locations on the map describe in more detail / show the position of the checkpoint itself relative to the one shown on the map and show the exact position of the checkpoint (flags).

A well-selected checkpoint detail primarily serves primarily by reading the map. The description and code number help us do this, but they should be as short and simple as possible without completely defining the position of the checkpoint. (Gobac, I., Gobac, D., 2013). Augmented reality technology can greatly assist in this, because it makes it possible to monitor, record and resolve tasks at checkpoints. Orienteering checkpoint descriptions contain the following information: header, starting point, descriptions of individual checkpoints with any additional instructions, description and length of section from last control to destination. When printing a slip, the descriptions of the checkpoints must be in the form of squares measuring between 5 x 5 mm and 7 x 7 mm.

## **6. EXPLANATION OF REALITY**

Augmented Reality is the integration of digital information with a real-time user environment (<https://blog.lucidea.com/the-future-of-augmented-and-virtual-reality-in-museums>). An existing physical framework is added to a layer of multimedia data over a real-world layer. A web of multimedia data can be projected in real time on the user's screen digitally supplementing isolated real-world image. Augmented reality devices are usually based on four different approaches, consisting of marker-less, marker-less, projection-based, and superimposition-based devices. -based). The paper concentrates on the approach used by the marker since flags at each control point are used in orientation running to which a marker can be added to augment augmented reality. Marker-based augmented reality software solutions can be implemented with equipment such as cell phones and tablets (Kukec M., Breslauer N., Jovanovska D., Škrlec J., 2019).

## **7. EXPANDED REALITY APPLICATIONS WITH POSSIBLE APPLICATION IN ORIENTATION**

The application seeks to demonstrate the possibilities of augmented reality in orienteering by using two markers, Marker 1 (Figure 3) and Marker 2 (Figure 4). By scanning the Marker 1. with a cell phone or other smart device that supports the camera, we are presented with additional extended content to a realistic environment. By scanning the number one marker, the user will be shown the map / map required for orientation running. The marker can be carried by the user and scanned as needed or markers can be placed on his route to invite additional content to the current real environment. By scanning another Marker, they can get instant route information or share a notification with the user that is relevant to the participant. It is possible to add augmented content to each of these two markers as desired or to the need of the race itself, one possibility is to collect points at checkpoints through the augmented reality application and to show the time spent in the race (Figure 6). By creating a smartphone app, augmented reality becomes mobile, and as long as we have a device with the app and have a marker, it is possible to perform augmented reality at any time, which is perfect for orienteering.

## **8. CONCLUSION**

Orienteering is becoming increasingly popular as a form of competition for the individual, team or family. It is also convenient and interesting to work with pupils and students as shown by some research on the subject. At the Polytechnic of Međimurje in Čakovec, a course in physical education and health and a course Sport in Tourism were held, in which students were introduced to the basic rules of orienteering, and then students participated in the competition in the environment / park around the Polytechnic. Before the start, the competitor receives a ticket with certain checkpoints, the use of mobile phones during the competition is desirable for orientation or in case of necessary help, due to injury or disorientation or something else. Augmented reality applications can make the movement more interesting, interesting, and enrich the knowledge during the movement about shaving the collected flags, some information



such as orientation movement, environment, history of a region, etc. The augmented reality system provides many opportunities to work on development and implementation in sports activities of orientation movement.

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## STRATEGY AS A KEY DETERMINANT OF ORGANIZATIONAL DESIGN

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### ABSTRACT

*In the development of organizational theory and practice, organizational design has attracted the attention of many theorists and practitioners in the last few decades. More recent research emphasizes the identification of key determinants of organizational design because a well-designed organizational solution affects business success. The purpose of this paper is to explain the role and importance of strategy as a key determinant of organizational design. In this regard, the contemporary trends in the development of organizational design, as well as the most important models of organizational design, are explained first. Particular emphasis is placed on the Star Model as a starting point for understanding the importance of strategy in organizational design. The specificity of the Star Model is that it emphasizes the impact of strategy on other elements of organizational design, such as capabilities, people, structure, rewards, and processes. The central part of the paper presents a case study of “Atlantic Grupa”, as one of the largest Croatian companies. The analysis of key determinants of the current strategy of “Atlantic Grupa” was based on two sources of information—documents listed on the official web site of the company and numerous external data sources of information. Finally, the impact of strategy on the organizational solution of “Atlantic Grupa” is analyzed. In this context, the relationship between strategy and organizational solution of “Atlantic Grupa” has been established, thus confirming that the organizational solution follows the strategy and that the strategy is a key determinant of organizational design of contemporary organizations. This case study can, therefore, serve as an example of how a well-placed strategy can influence the good choice of organizational solution, with the ultimate goal of improving business performance.*

**Keywords:** *Organizational design, Strategy, Star Model, Organizational performance, Atlantic Grupa*

### 1. INTRODUCTION

Contemporary trends in the study of an organization as a scientific discipline pay increasing attention to the key elements of organizational design in modern organizations. It is important to recognize the elements that the management must take into account during the organizational design process. Recognition of the key elements of organizational design leads to the creation of a good organizational solution that will serve to achieve organizational success. In addition, management must take into account the interconnectedness and coherence of all elements of organizational design. Different authors state what the key elements of organizational design created primarily as part of different models of organizational design are. The most important models of organizational design show different, but also very similar elements of organizational design. According to Rasić Jelavić, Galetić, & Hernaus (2016), the key elements of organizational design that management needs to take into account are organizational capabilities, strategy, organizational structure, management processes, work processes, reward systems, and people issues. Numerous authors have emphasized the importance of strategy as a key determinant of organizational design. One of these authors is Hernaus (2011), who claims that “an organization without strategy is like a ship carrying waves in a turbulent sea.” The aforementioned author particularly emphasizes the role and importance of strategy in achieving

organizational harmony and establishing a balance between available resources, organizational capabilities, and the environment in which the organization operates. Therefore, it is not surprising that the strategy is the subject of numerous research in the field of organization and management. The importance of strategy is also reflected in the thesis of Sikavica (2011), which claims that “each successful strategy ultimately contributes to organizational success.” In this paper, we will first consider the concept of organizational design and contemporary trends in the study of organizational design. Then, the concept of organizational design based on strategy as a key determinant will be introduced. Particular emphasis will be placed on introducing one of the most important models of organizational design: the Star Model. Finally, the key aspects of Atlantic Grupa’s strategy and model of the impact of this strategy on Atlantic Grupa’s organizational solution will be presented.

## **2. LITERATURE REVIEW**

### **2.1. Determining the concept of organizational design**

At the beginning of the development of organizational design discipline, a one-dimensional view of the organizational design prevailed, i.e., the understanding according to which the organizational design covers only one area, the area of creation of organizational structure (Rašić Jelavić, Galetić, & Hernaus 2016). This traditional understanding of organizational design was incomplete because modern organizations operate in complex and turbulent conditions that have to be quickly adapted if they want to be successful. In this regard, organizations must take into account the number of elements and not just the organizational structure. Due to radical changes in the environment related to the development of large and complex enterprises at the end of 1960s, the management faced changes in organization and strategy, while research and practice examples have shown that structure is not the only important determinant of organizing (Rašić Jelavić, Galetić, & Hernaus 2016). According to the same authors, the integrative view of organizational design was developed in the 1990s because there are multiple and mutually intertwined elements of the organization that had to be harmonized so that organizations can respond to the contemporary challenges. With the development of organizational theory and practice, different authors gave different definitions of organizational design. Huber & McDaniel (1986) believe that organizational design is a process that includes determining the organizational roles and relations between these roles. Kates & Galbraith (2007) state that organizational design is a “deliberate process of configuring structures, processes, reward systems, and people practices to create an effective organization capable of achieving the business strategy.” Similarly, Hernaus (2018) claims that organizational design is a creative and complex process of “shaping the way of the organization’s everyday activities, i.e., determining the formal structure, organizational (management and business) processes, role and tasks of individuals or groups needed to perform a certain work.”

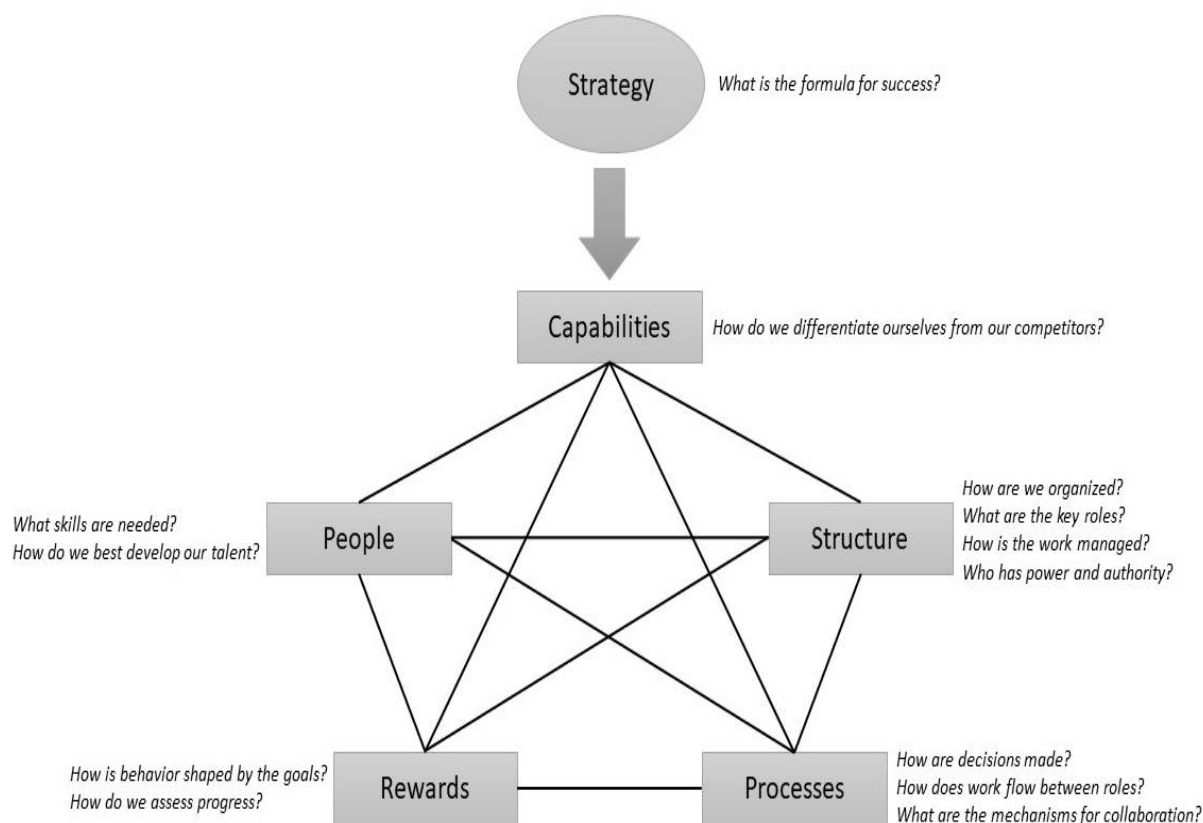
### **2.2. Contemporary trends in the study of organizational design**

The role of a well-implemented organizational design process is to achieve harmonious functioning of all parts of the organization, with the ultimate goal of achieving organizational success. According to Hernaus (2018), harmonization of different elements of organizational design should create an organizational solution that will be able to react promptly and properly in different situations. Kates & Galbraith (2007) considered that “one of the main purposes of organizational design is to align individual motivations with the interests of the organization and make it easy for individual employees to make the right decisions every day.” That means that organizational design is important for employee behavior in the workplace, as well as for organizational behavior in general, and for creating a comfortable and motivating work environment for all employees.

A quality process of organizational design enables to achieve competitive advantages, and that is a reason why organizational design is considered a source of competitive advantage of modern organizations (Sikavica, Bahtijarević-Šiber, & Pološki Vokić 2008; Hernaus 2011; Hollinger 2012), which also show contemporary research. Powell (1992) found that organizational factors could influence the creation of a sustainable competitive advantage. Narasimha (2000) emphasizes that organizational design through the creation of knowledge in individuals also contributes to archiving a sustainable advantage, which is the result of group actions. Pereira-Moliner et al. (2016) found a positive correlation between the different characteristics of organizational design and quality management and the costs and differences in competitive advantage. The contemporary theory and practice of organizational design also mention various models of organizational design that not only help management but also theorists to understand better the elements that they have to take into account when designing the organization. Models of organizational design came from different consultants who designed such models, but it should be emphasized that theorists also create their models of organizational design. The most important models of organizational design mentioned in contemporary literature are the Star Model, McKinsey 7-S Model and Congruence Model of Organizational Behavior. The Star model was developed by Galbraith in 1973 to facilitate understanding of the complexity of the organization. This model has been revised over the years as the theory and practice of organizational design developed and is currently the leading theoretical model in the field of organizational design (Hernaus 2011). The importance of this model stems from the fact that it puts into focus that strategy is a key determinant of organizational design.

### **2.3. Organizational design based on strategy as a key determinant**

The Star Model, as one of the most important models of organizational design in contemporary organizational theory and practice, emphasizes that management must take into account five key elements: capabilities, structure, processes, rewards, and people. These elements are shown in Figure 1, which shows the Star Model of organizational design. Capabilities are unique and integrated combinations of skills, processes and human capabilities and they are factors that ensure a competitive advantage to the organization (Kates & Galbraith 2007). The structure indicates formal reporting relationships, identifies employee grouping into departments and includes system design to ensure effective communication, coordination, and integration of efforts across departments (Daft 2008). Processes can be defined as a series of related activities that send information up, down, and across the organization—they answer questions about how decisions are made, how work flows between roles, and what the mechanisms for collaboration are (Kates & Galbraith 2007). Awards align individual employee behavior and performance with organizational goals (Kates & Galbraith 2007; Hernaus 2011). In today's modern business conditions, organizations are designing different innovative reward systems to attract, retain and motivate employees as the success of the organization depends on it (Rašić Jelavić, Galetić, & Hernaus 2016). Employee skills and competencies are the last elements of organizational design to be considered and they are also related to the human component in an organization. Namely, it refers to the common human resource management system and other policies that relate to employees and their behavior and includes skills, acquired knowledge, and experience of employees, as well as career development (Hernaus 2011). Figure 1 shows how strategy is above all elements as it is the sixth element from which all other elements arise. The Star Model also emphasizes the interconnectedness and coherence of all elements in such a way that they contribute to the strategy. Based on the presented model, it can be concluded that the starting point for organizational design is strategy, i.e., “different strategies require different organizations to execute them”, because it is always easier to change strategy than the whole organization (Kates & Galbraith 2007).

*Figure 1: The Star Model*

*Source: Kates & Galbraith 2007, p. 3*

Many authors have tried to define strategy in different ways, and there is no unambiguous answer to the question of what a strategy is. The simplest definition of a strategy is that it is a way of achieving the goals set by the individual or organization. This definition of strategy is the most common when looking at organizational and management literature. So, different authors emphasize the following definitions of a strategy:

- Actions taken by organizations to gain competitive advantage (Bryan & Joyce 2007);
- A plan for the organization to interact with a competitive environment (Daft 2008);
- An organization's success formula that outlines the goals to be achieved, mission and values to be pursued, and also describes products and services offered to customers, as well as sources of competitive advantage (Galbraith 2011);
- Operationalization of organizational goals to achieve efficiency and/or effectiveness (Burton, Obel, & DeSanctis 2011).

Dulčić (2018) emphasizes that strategy today has a major role in the organization. The above author's thinking starts from the fact that strategy answers the question of how the goals of the organization will be achieved, and the organization is a basic instrument for the realization of formulated strategy. Hernaus & Aleksić (2016) also emphasize the importance of strategy for the organization, since the goals and their respective strategies significantly determine other elements and business activities within the organization. Namely, as Sikavica (2011) points out, designing an organization should start with the strategy because only after the organization has selected the right strategies for the goals that it wants to achieve, can it begin to look for an appropriate organizational solution that will be adapted to the selected strategies. The importance of strategy for the organization is also evidenced by the fact that often the success of the organization depends on the success of the strategy.

Numerous studies support the thesis that strategy plays an important role in achieving business success, often mentioning the indirect role of strategy in linking organizational design concepts and business performance, and also how clearly defined strategies and particular types of strategies contribute to business success (Pertusa-Ortega, Molina-Azorín, & Claver-Cortés 2010; Parnell 2010; Parnell et al. 2012).

### **3. A CASE STUDY OF A COMPANY WHOSE ORGANIZATIONAL DESIGN IS BASED ON STRATEGY: ATLANTIC GRUPA**

#### **3.1. About Atlantic Grupa**

The Annual Report for 2018 states that Atlantic Grupa is a vertically integrated multinational company, and one of the leading food companies in Croatia whose business activities include R&D, production and distribution of consumer goods. The company is headquartered in Zagreb, with production facilities located in Croatia, Slovenia, Bosnia and Herzegovina, Serbia and Macedonia, while the branches and representative offices are located in eight countries. Today, Atlantic Grupa has a total of about 5370 employees (Atlantic Grupa 2020). Atlantic Grupa is also an example of a family-owned company, owned and managed by its CEO, Emil Tedeschi. Also, the Annual Report for 2018 states that Atlantic Grupa is one of the leading manufacturers in Southeast Europe today with brands in the coffee, beverage, snacks, savory spreads, delicatessen, and gourmet segments. Atlantic Grupa is also the owner of one of the leading Croatian manufacturers of vitamins, minerals, dietary supplements and over-the-counter medicines such as Dietpharm, as well as the leading pharmacy chain in Croatia, Farmacia. With its own distribution network in Croatia, Slovenia, Austria, Serbia and Macedonia, Atlantic Grupa distributes a range of external partner products on an exclusive basis, such as Wrigley, Mars, Ferrero, and Johnson & Johnson (Atlantic Grupa 2020).

#### **3.2. Key determinants of Atlantic Grupa's strategy**

The Annual Report for 2018 emphasizes that since its inception, Atlantic Grupa has pursued a development strategy based on a combination of organic growth and acquisitions. Atlantic Grupa has thus completed around 50 different acquisitions, the most famous being the acquisition of Droga Kolinska in 2010. Through this strategy, Atlantic Grupa wanted to reduce the risk of dependence on individual brands, principals and distribution channels (Atlantic Grupa 2020). The strategy currently being implemented by Atlantic Grupa is based on the following guidelines (Atlantic Grupa 2020; Glas Slavonije 2018; Tportal 2019; Večernji.hr 2019):

- Focus on brands, quality management and new business opportunities;
- Expansion of distribution activity;
- Disinvesting non-core business operations.

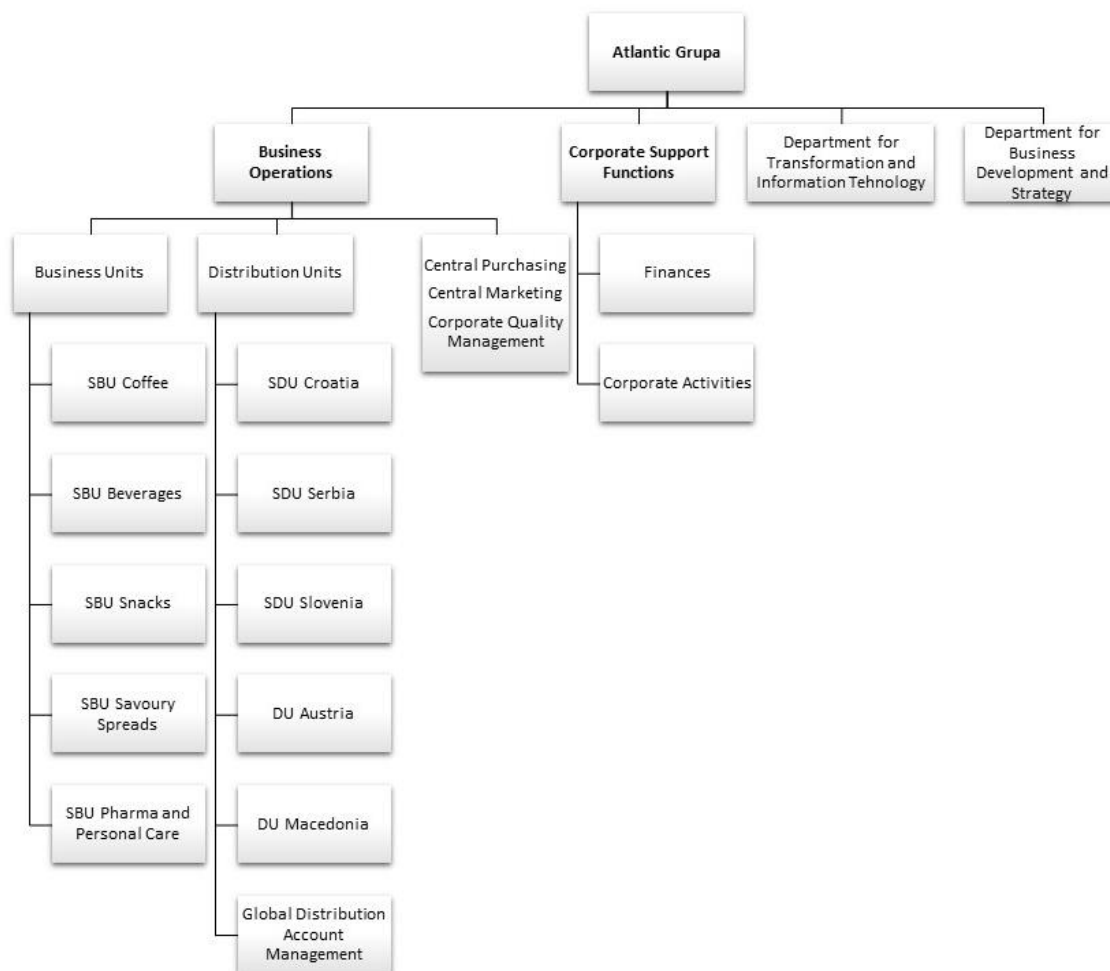
The Annual Report for 2018 points out that in the future, Atlantic Grupa will base its strategy on focusing on key brands, as well as large categories and those categories that have strong growth and sustainability potential, but also new business opportunities. At the same time, Atlantic Grupa will continue to work towards providing superior customer experience and creating content that supports each product and service, and that will be supported by the development of new technological solutions. Also, one of the basic strategic determinants is to increase their sense of satisfaction, optimism, and joy of creating within the Atlantic Grupa (Atlantic Grupa 2020), which confirms that they will continue to attach importance to human resources management. With regard to the expansion of distribution activities, the newly opened and modern equipped Atlantic Grupa's logistics center, which will be the central distribution center for Croatia, will contribute to the long-term development of the distribution business.

According to Tportal (2019), “the development of a distribution business is one of the pillars of the Atlantic Group’s growth and development strategy, the core of which is customer focus, aided by modern solutions offered by a comprehensive business digitization process.” From the above, it can be concluded that Atlantic Grupa will continue to focus on optimizing the distribution process in its strategy. This is supported by the fact that “a modern high-rise facility also has the possibility of additional modular expansion in line with business needs, which ensures long-term sustainability and support for the further development of distribution activities” (Tportal 2019). With a focus on key brands and those with growth and sustainability potential, Atlantic Grupa has already started with a strategic program of divesting non-core business activities in 2018. According to the Glas Slavonije (2018), Atlantic Grupa has sold Neva, which produces brands such as Rosal, Plidenta, and Melem. Also, according to the portal Večernji.hr (2019), Atlantic Grupa has sold the sports and functional nutrition business, which includes the brands Multipower, Champ, and Multaben. Because Atlantic Grupa has different product lines, this strategy is necessary and justified to develop brands that have great potential for further growth.

### **3.3. The impact of strategy on the Atlantic Grupa’s organizational solution**

As Atlantic Grupa has so far pursued an internal and external growth strategy through the acquisitions and emphasized a focus on key brands and distribution activities, the organizational structure, and existing organizational solution are in line with Atlantic Grupa’s business. Specifically, Atlantic Grupa recognized the strategic importance of its key brands and accordingly designated separate business units for each product segment, named as “strategic” (SBU Beverages, SBU Coffee, SBU Snacks, SBU Savory Spreads, and SBU Pharma and Personal Care). In terms of distribution activity, Atlantic Grupa has identified strategic distribution units (Croatia, Serbia, and Slovenia) and distribution units (Austria and Macedonia). Accordingly, its organizational structure has elements of the production and territorial divisional organizational structure. In addition, Atlantic Grupa is a large and multinational company with about 5370 employees and its organizational structure is complex. So, over the years, certain changes have taken place within the organization, which are the result of strategic decisions of Atlantic Grupa’s management. An insight into the Annual Reports for 2017 and 2018, and the current data found on the Atlantic Grupa’s corporate web site shows that the structure follows strategic management decisions, and the current organizational structure looks like Figure 2.

*Figure following on the next page*

*Figure 2: Organizational Structure of Atlantic Grupa*

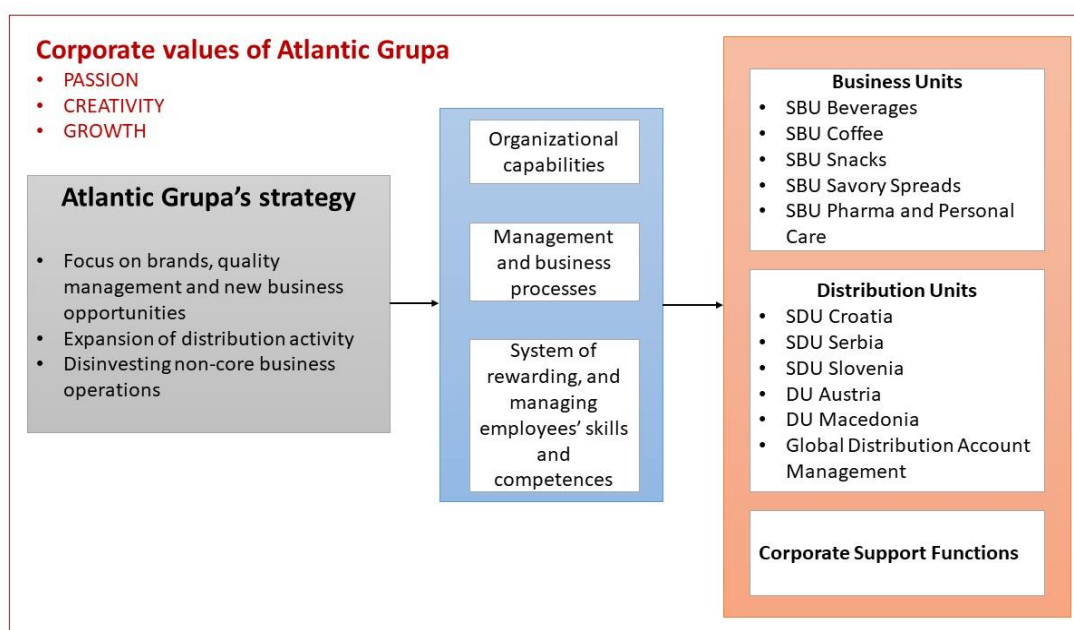
*Source: Created by the author according to data from Atlantic Grupa's corporate web site*

With regard to other elements of organizational design, Atlantic Grupa's capabilities can be recognized in finding new approaches to production, distribution, and customer (Atlantic Grupa 2020). These capabilities differentiate Atlantic Grupa from its competitors and they are part of the company's business secret, or rather the uniqueness of the company. Also, such a complex organizational structure is the effort of management processes and structures within the organization, whose capabilities are very important in the organizational design process. The management structure of the Atlantic Grupa is a composite of the Supervisory Board and the Management Board. Atlantic Grupa's Supervisory Board has 6 members, chaired by Zdenko Adrović. Atlantic Grupa's Management Board is composite of 6 members and consists of the President of the Board (CEO), Emil Tedeshi; Vice President for Finance, Procurement and Investments; Vice President for Corporate Affairs; Vice President for Strategy, Business Development and Growth; Vice president for Distribution and Vice President for Savory Spreads, Donat Mg and International Expansion (Atlantic Grupa 2020). In addition to management processes and systems, the business processes that take place within the business are also important for the success of an organization. Atlantic Grupa has identified its key business processes that are important to the quality management system of the company, as well as to achieving business excellence. Atlantic Grupa's key business processes are divided into three groups: product realization, product placement and internal perspective (Atlantic Grupa 2020). In product realization, the key business processes are new product development, purchasing process, manufacturing process, investment process, and product safety & quality



managing. In product placement, the key business processes are marketing management and logistics & distributions. From an internal perspective, the key business processes are corporate governance, planning process, risk management, human resources management, information technology, documentation & records management, audit & certification management, non-compliance & C/PA management, and environmental & health and safety management. The last element of organizational design is related to human resources as the most valuable and important resource of any organization. In today's business conditions, it is critical to manage human resources well, take care of their knowledge, skills, and competencies, as well as follow the employee performance reward system. According to the portal MojPosao (2018), Atlantic Grupa invests in the development of its employees and has good human resources management practices, which is evidenced by the fact that it is the holder of the Employer Partner Certificate for the sixth time. Because Atlantic Grupa is a multinational company, it pays special attention to building a unique corporate culture, as well as a healthy and stimulating work environment. Therefore, they have developed numerous programs that are dedicated to developing human resources and careers, managing performance and rewarding excellent results (Atlantic Grupa 2020). To see the impact that the strategy has on the organization of a company such as Atlantic Grupa more easily, a model of the impact of the strategy on the organizational solution of Atlantic Grupa has been developed, which is shown in Figure 3. The model shows how strategy, as the most important element of organizational design, influences other elements of organizational design (organizational skills, management and business processes, system of rewarding, and managing employees' skills and competences), which ultimately influence the organizational structure of Atlantic Grupa. The model draws its foundation from the Star Model. Specifically, a well-developed strategy influences management behavior, human resource management, but also the capabilities that are a key source of Atlantic Grupa's competitive advantage. The combined efforts of these three grouped elements affect business operations by organizing operations into strategic and distribution units and organizing support functions that enable the smooth operation of large companies such as the Atlantic Grupa. It can also be seen that all elements operate within the corporate values promoted by Atlantic Grupa: passion, creativity, and growth. These values are the driving force of Atlantic Grupa and its business.

Figure 3: A model of the impact of the strategy on Atlantic Grupa's organizational solution



Source: Created by the author

Based on the above, it can be concluded that the strategy is the most important element of Atlantic Grupa's organizational design that influences its overall organizational solution and business. With the strategic guidelines and growth of Atlantic Grupa, the organization of business was adjusted. When Atlantic Grupa did not yet have a strategy of disinvesting non-core business operations, there were more business units in the organizational structure and changes in the distribution units that resulted in business reorganization. Therefore, in theory, Atlantic Grupa applies the approach where structure and organization follow strategy.

#### **4. CONCLUSION**

Within organizational design, there are many elements to consider while designing an organizational solution. Through the development of organizational design models, theorists and consultants of organization strive to emphasize the importance of individual elements, but all agree that, in contemporary business conditions, an organization can take into account not only formal organizational structure as an element, but also other elements, such as organizational capabilities, strategy, management and business processes, rewarding employees, and managing employees' skills and competencies. By achieving consistency in all these elements, organizations can not only achieve a competitive advantage but also business success. All elements of organizational design are equally important because the absence of a single element would render an organization unable to establish an appropriate organizational solution and would be unable to operate successfully. Numerous authors emphasize that strategy is one of the key elements of organizational design, to which other elements, as well as organizational solutions, must be adapted. When a strategy is defined, all other elements can be formed in accordance with the fundamental determinants of the strategy. In this approach, it is important that all elements function according to the strategy and that all business activities are performed within the strategy. The case study of Atlantic Grupa presented here is a successful example of organization and organizational design of a large and multinational company with different products. Atlantic Grupa successfully applies the approach that organizational solution follows strategy, i.e., strategy affects the creation of its organization. Since its inception, Atlantic Grupa has a clearly defined growth strategy that has been successfully implemented so far, but in line with current market conditions, the company has also set new strategic directions, which include a focus on key brands, expansion of distribution activity and disinvesting non-core business operation. Atlantic Grupa's strategy, through compliance with organizational capabilities, management and business processes, as well as a system of rewarding and managing skills, and competencies of employees, influences the organization of business, which is divided into business and distribution units, and corporate business support functions, all of which takes place with the driving force of Atlantic Grupa: its corporate values. This paper gave his theoretical and practical contribution to the discipline of organizational design by emphasizing the importance of alignment of all elements of organizational design, but also highlighted the importance of strategy as a key determinant of organizational design which adapts to the existing organizational solutions. The discipline of organizational design has a lot of place for further research, but in recent years there is more popular research of operational organizational design, which will certainly affect the further course of development of this discipline.

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## IMPLEMENTATION OF FIELD TRIP IN TEACHING BUSINESS ENGLISH

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### ABSTRACT

*The aim of this paper is to present how to implement field trip in teaching Business English at undergraduate level of studies and how students benefit from it. Business English focuses on vocabulary and grammar used in specific professional situations as well as gaining language skills to participate in real-life business situations. However, it does not solely involve teaching phrases and words to be used in business context, it also involves teaching communicational, managerial and other skills necessary for successful business interaction. Thus, it often transcends a simple foreign language teaching and involves interdisciplinary approach where English teacher becomes a person who prepares students for possible situations they will encounter in their future career. As such, language learning involves promoting and developing creativity among students as well as teachers. Students mostly have very different background knowledge of foreign language, different experience in business as well as the lack of it. Also, they come from different high schools which means their knowledge of general English is very diverse. This is the reason why sometimes it is very difficult to meet the needs of every student. Nevertheless, field trip can be implemented in teaching Business English regardless of these difficulties. There are several examples of field trips which are appropriate in Business English classes for students in higher education. This paper will present field trips done at University College Aspira, Split, Croatia, with students of Hotel and Tourism Management. It will also present what students gain from each activity and how this kind of language teaching improves students' language and entrepreneurial skills and helps to develop creative way of thinking.*

**Keywords:** *Business English, Creativity, Higher education, Field trip, Teaching*

### 1. INTRODUCTION

Throughout history many different methods and approaches in second language teaching have been used. From traditional ones like Grammar-Translation Method, The Direct Method, The Audio-Lingual Method to more innovative methods like The Silent Way or methods which were following the principles of Affective-Humanistic approach. Communicative Language Teaching changed the way we perceive foreign language teaching and turned the focus to communication rather than content learning. Modern methods and approaches are focused on the language learner during the second language acquisition. Business English teaching is unique in its aim and it is not focused on general knowledge of a foreign language but its usage

in business situations. Business English is usually taught at universities and colleges in Croatia and students are expected to have some knowledge of general English gained in their high schools. Classroom interaction and field trips are quite different in its core. When going on an educational field trip, students lose formality of a classroom and become more relaxed and often more motivated to participate in an activity. There are many ways to implement field trip in teaching Business English. This paper shows two ways of implementing field trips in teaching Business English at higher level of education with students of Hotel and Tourism Management. One example shows a simple activity that students can do regardless of their previous knowledge. The other presents a more complex example of real interaction with real people which can be used in real business context, but it is still possible to be done regardless of students' previous experiences in business or the knowledge of general English. Since it is important to get the feedback and evaluate the activity in order to assess the success of a field trip, this paper also provides an example feedback done by one of the students.

## **2. METHODS AND APPROACHES IN SECOND LANGUAGE TEACHING**

As reported in Celce-Murcia (2001), an approach to language teaching is something that reflects a theory, and a method is a set of procedures by which foreign language can precisely be taught. As reported in the Oxford Advanced Learner's Dictionary (2000), a method is a particular way of doing something, and an approach is a way of thinking about something such as problem or a task. This section analyses approaches and methods reviewed in Larsen-Freeman (2010) and in Celce-Murcia (2001.). The field of second language teaching has undergone many changes which occurred together with the changes in history and culture. Until the beginning of the twentieth century language teaching methodology was based on two types of approach: getting learners to understand second language and to use it to communicate, versus getting learners to understand its grammatical rules. In the twentieth century, language teaching became a profession and the need for proper teaching methods and approaches appeared. Despite disagreements in views, principles and styles of methods and approaches in foreign language teaching, they have the same goal and that is to improve foreign language teaching and foreign language learning skills and make second language more interesting for the students as well as for the teachers.

### **2.1. Traditional methods and approaches**

One of the first methods used in second language teaching is Grammar-Translation Method. It was first called Classical Method because it was first used for teaching Latin and Greek. Its goal was to teach students how to read literature in the target language by translating from one language to another. It emphasized the importance of grammar and vocabulary, therefore reading and writing were considered the most important skills, while speaking, listening and pronunciation got much less attention. The language used in the classroom was student's native language or mother tongue. As reported in Larsen-Freeman (2010), some authors claimed that Grammar-Translation Method teaches students about the second language, but not how to use it. By the mid-nineteenth century, the importance of communication in second language was recognized and this period was known as Reform Movement. The Direct Method also became popular. It did not allow translation. Its goal was to teach learners how to communicate in the target language by using little or no native language at all. It emphasized the importance of everyday vocabulary and pronunciation. The Audio-Lingual Method was dominant in the United States in the 1950s and 1960s. Similar to the Direct Method, it was based on oral approach. Teachers following the principles of this method believe that students should over learn the target language so they could use it automatically. Lessons were learned through different drills like imitation and repetition. Once again the first language was completely neglected.

## **2.2. Innovative methods and approaches**

Traditional methods were based on forming a set of habits and the problem occurred when those habits were supposed to be transferred to the real conversation. The first linguist to challenge the principles of those methods was Noam Chomsky in the early 1960s. He believed that language learning should be considered the rule acquisition, and not the habit formation. Chomsky also believed that individuals are responsible for learning and that they should use cognition to discover the rules of the language they are acquiring. A method which was very popular in this period and which shares certain principles with the Cognitive Approach was the Silent Way. Teachers using this method were supposed to be silent as much as possible, but nevertheless active using nonverbal gestures and props. Students should use the second language to express their thoughts, perceptions and feelings. The Silent Way puts emphasis on the importance of pronunciation and structures of language focusing on all four skills (speaking, writing, reading, and listening). Desuggestopedia, Community Language Learning and Total Physical Response were methods which were following the principles of Affective-Humanistic approach. This approach was reaction to the lack of affective features in previous approaches. Due to different mental barriers we do not learn as quickly as we could so this approach placed emphasis on individual differences of each student and teacher. Desuggestopedia was based on the theory that learning process of each individual improves while he or she is exposed to suggestions. Vocabulary and the communication were very important. The Community Language Learning Method advised teachers to observe their students as "whole persons" paying attention not only to student's intellect, but also to his or her feelings and physical reactions during the second language acquisition. Teachers have a role of language counsellor teaching their students to use the second language communicatively, and students should observe their learning skills in a responsible way. Conversation in the classroom begins with the first language. Total Physical Response placed emphasis on the listening comprehension. Students should understand the first language first and produce it when they feel ready. Until that moment they respond physically. This method relied on similarity of second language learning to child's first language acquisition. Teacher was supposed to use second language communicatively starting with the first lesson and he should also use a lot of props to help students understand new language they are acquiring. Communicative Language Teaching (CLT) started to develop in the 1970s when teachers started to question their own communicative methods since students could not use second language for simple phrases within social context even though they mastered linguistic structures. The goal of this method was to enable students to communicate using second language. There are three more approaches following the ideas of the Communicative Approach: Content-Based, Task-Based and Participatory Approaches. They emphasized process over predetermined linguistic content. Students were learning how to communicate through using content and tasks relevant for a particular profession, e.g. "a language course for airline pilots is different from one for the computer scientists" (Larsen-Freeman, 2010:137).

## **2.3. Metodological innovations**

Learning Strategy Training, Cooperative Learning and Multiple Intelligences are not comprehensive methods of language teaching but they are demonstrating interesting methodological practices, as stated in Larsen-Freeman (2010). They differ from previous methods and approaches because they are completely focused on the language learner during the second language acquisition, regardless of whether he or she is considered as a part of the group or as an individual. Teacher's duty is to train learners in learning strategies so they could use language more effectively. He or she is basically teaching learners how to learn paying attention to their differences and 'intelligences'. Principles of each method and approach reviewed in this section of the paper are being practiced in the classrooms, even though not

equally. They have many differences, e.g. most of them do not consider culture as an important factor in second language teaching, while some of them depict it as the most important feature of language learning. Some teachers base second language teaching on learners' native language while others completely neglect it. Some are focused on the learner as a part of the group and some as an individual. But they all share the common goal and the biggest similarity between methods and approaches is that they are trying to make second language acquisition as affective as possible.

#### **2.4. Methods of Business English teaching**

All previously described innovative methods and approaches are used for Business English teaching with, of course, special attention placed on vocabulary and language structures used for business purposes. As stated in Paris (2017), Business English teaching differs from teaching general English language so all these methods are adjusted to the students' aim. Students need to be taught how to develop the skills they need to use in the business world. Furthermore, most students are employed and know what they need the most to successfully communicate in English language in their workplace. Those who are not employed learn through their employed colleagues' experience, as well. Most of the business is usually conducted globally and students will often have to interact with people who are not native speakers, therefore special attention is placed on developing listening skills and pronunciation. Students should be encouraged to communicate orally as much as possible and develop speaking skills. Grammar rules are revised and additional exercises are done by students independently. In addition to the traditional language exercises, students expect other work materials, especially those related to their work, such as newspaper articles, mails, reports, presentations, etc. In that sense, field trip to related businesses is an excellent opportunity to get feedback from students and an overall insight into previously learned materials. The topics covered in the course should be at least similar, if not real situations. Those are, for example, business events that students have the opportunity to experience at their workplace.

### **3. GENERAL CHARACTERISTICS OF CLASSROOM INTERACTION VS. EDUCATIONAL FIELD TRIP**

Classroom represents a special social situation in which the main participants are the teacher and learners. According to Cook (2008), the second language teaching classroom is unique for two main reasons. First one is that organization of the classroom takes place through language and the second reason is that subject matter that is being taught is language. Numerous researches showed that teacher talk makes up around 70 per cent of classroom language which leads to the conclusion that learners are in subordinate position. However, this is partly true since the process of foreign language learning and foreign language teaching understands communication on both sides. Teacher's action demands learner's reaction which is again followed by teacher's reaction and so on. In the second language teaching classroom language is something each learner should use in communication. Therefore, communicative competence is the aim of foreign language teaching. But the language is also the object of communication and this level of classroom communication is called metacommunication. Apart from the verbal means of communication, non-verbal means are also important in foreign language teaching. Those are: paralinguistic means (the tone of voice, pauses, etc.), proxemic and kinesic means (posture, body language, etc.). Pedagogic communication also exists and it refers to teacher's communication with the help of course book. Richard and Rogers, as reported in Curkovic-Kalebic (2003), believed that the interaction between teacher and learners depends on their roles in the classroom. According to them, there are two types of teacher-learner relationship. Those are: asymmetrical relationship (teacher has the central role in classroom, as in Audio-Lingual Method) and symmetrical relationship (teacher makes part of the group).

When discussing the classroom communication, it is also important to make difference between two different types: pseudocommunication and real communication. In the former, base of communication is the information, which is already familiar to the learners, most often from the course book, so the communication is not real. In the latter, learner's opinions, attitudes and beliefs are included therefore; it is real, everyday communication. Real communication is used in the field trip classes, especially in Business English teaching. It is based on pseudocommunication and learning materials, and later enriched by real examples and real situations. Field trip can include a huge variety of activities which could not be accomplished in the classroom.

### **3.1. Educational field trip learning method**

Educational field trips are very important when it comes to teaching and learning Business English. According to Krepel and Duvall (1981), a field trip is a class trip with an educational purpose. Students are invited to visit a site or a certain object and thus get the chance to interact with an actual subject of their studying, whether it is a setting, a display, some exhibit or in case of Business English students, a company and people working for it. Field trips offer a unique experience for students in a sense of visiting locations and making conversations with people on various functions, thus putting studying materials into more realistic context, strengthening mental pictures which are presented in the class. Students get a chance to reinforce ideas introduced in the classroom. As any Direct Method, field trips offer the opportunity to experience real learning process with little or no involvement of teachers or members of faculty members. Their role is important when preparing students for the field trip and afterwards, when drawing the conclusions and connecting the gained knowledge with the coursebook materials.

## **4. FIELD TRIP EXAMPLES**

Implementing field trip in Business English course can be done in many different ways. However, it should always consist of three stages. The first stage is covering theory in the classroom as a preparation stage and also explaining and working on ideas which will be covered within the field trip itself. The second stage is to do the field trip activity which should involve using knowledge and skills gained in the classroom for real life situations on site. The third stage is to get the feedback, evaluation and personal impression from students in order to verify the successful implementation of the field trip. This final stage can also provide useful information for the teachers since it can help improve similar activities in the future. Also, it is crucial to get the feedback from students in order to promote their critical thinking and ability to assess usefulness of such activities as well as to promote peer review activity since they are comparing and assessing each other's work.

### **4.1. Example 1: Speaking to a Group**

The first example of implementing field trip in Business English Course was done with the first year students of Hotel and Tourism Management and Gastronomy at College of Management and Design Aspira in Split. The preparation stage was done through course book topic Professional Skills: Speaking to a Group. This consisted of speaking activity which included new vocabulary to be used when describing and talking about works of art and listening activity which provided a model of guided tour with usage of new vocabulary. After these tasks were completed, students were asked to choose important works of art, statues or monuments in the city of Split which they would like to research and present to their colleagues during field trip. Since the city of Split is very rich in such interesting and important monuments it was easy to find examples. However, students can visit a local art gallery or a museum if there are no such options available.



When allocating tasks, teacher can suggest topics which could be the best options, but it is also important to let students find the topic of interest in order to promote creativity and increase motivation for the task. Also, it is important to clarify the structure of presentation and limit the time to about 5 minutes as to have enough time for all students to participate. Time limitation, of course, depends on the number of students but it should not exceed 10 minutes because students who act as listeners will often lose attention. Furthermore, even though all students were informed about the task and were rewarded in their final grade with extra points for doing it, some missed the preparation stage class and just came as listeners to the field trip. Since the idea is to motivate and promote creativity the reward was important and it showed as a better alternative to punishing students for not participating or making it obligatory for all. Field trip activity included going around the city and presenting important monuments, sculptures and works of art. It lasted for 90 minutes for a group of 20 students. When each student finished presenting the students acting as an audience could ask questions and comment the colleague's work. This feedback and evaluating stage was done immediately in order to stay focused on a specific presentation. Students were asked to critically assess what was done well and what could be done better in the future. It was a great challenge for students with lower level of knowledge of English language, but they prepared even better than students with excellent language skills because the reward was more motivating for them. At the end the group voted and chose the best presentation. This provided an opportunity to think critically about their own work as well as the work of their peers and the best presentation they chose was actually the one closest to the model they heard in the preparation stage.

#### **4.2. Example 2: Customer Feedback**

The second example of implementing field trip in Business English Course was done with the second year students of Hotel and Tourism Management and Gastronomy at College of Management and Design Aspira in Split. The preparation stage included a lesson called Customer Feedback. Through speaking and listening tasks students were discussing different ways of getting feedback from their customers and the importance of feedback in their future businesses. Also, students revised and practiced grammar rules related to asking questions. At the end of the lecture students were asked to discuss and write down questions they would ask to get feedback from their customers in job related situations. They were divided in groups of 3 to 4 for this activity. Some students were very interested in the topic and generated their own questionnaires. Others, less creative, were given a sample questionnaire they worked on and adjusted it to their interests. The questionnaires students formed during the lesson consisted of questions: What is your first thought when you think of Split? Why did you choose Split as your holiday destination? How did you find out about Split? Where are you staying? What is the average amount of money you spend per day while on holiday in Split? Do you consider Split/Dalmatia as a safe destination? Have you had any negative experience during your visit? The questionnaire also included a part where interviewees were asked to grade certain aspects of Split/Dalmatia as a destination (Table 1). The example table below shows areas one student wanted to cover as well as the results.

*Table following on the next page*

*Table 1: A survey about Rogoznica*

<b>Please grade all aspects of Dalmatia as a tourist destination. From 1 (= insufficient) to 5 (= excellent)</b>	
Accommodation	Ø4,7
Staff's hospitality (accommodation, restaurants...)	Ø4,7
Cultural and historical offer	Ø4,4
The diversity of cultural content	Ø4,2
Gastronomy and food offer	Ø3,9
Originality of souvenirs, crafts and art	Ø4,1
Shopping availability	Ø4,0
The diversity of entertainment for youth	Ø3,5
The diversity of entertainment in general	Ø3,7
Beaches (cleanliness, contents)	Ø4,4
The diversity of sport and recreational activities	Ø3,2
Availability of medical, wellness & beauty services	Ø3,8
Availability of business and science seminars venues	Ø4
Value for your money	Ø4,7
Choices of transport	Ø4,1
Other services (public transport, taxi, rent-a-car...)	Ø4,1
General cleanliness	Ø3,8
Other destinations nearby	Ø4,4
Local people's hospitality	Ø4,5
Atmosphere	Ø4,7
Tourist information availability	Ø4,0

*Source: Tena Ćorić*

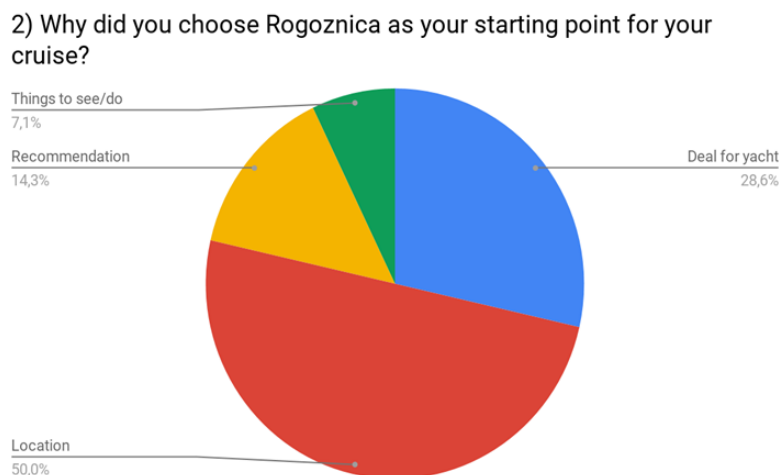
The field trip was organised in a way that students and teacher went to the old part of the city of Split and interviewed tourists. Students were interviewing in 4 teams of 3 to 4 students and overall they did 40 surveys. The teacher supervised each group and at the end of activity there was a discussion about student's experiences. It was a challenge for teacher since students were divided and walked around so it was not possible to hear all interviews. However, it was also important for students to try without teacher's presence to get the real experience. Students who were not able to participate that day were asked to conduct a survey in the place they live or work. Since Aspira College has a lot of students who work during the season, some of them used this activity as an opportunity to get the feedback from their customers. Feedback and evaluation were done in the following lesson where students were analysing their results and discussing the areas that need to improve. Conclusions which students found most interesting were that the city of Split is perceived as a clean and safe city.

#### *4.2.1. Student's feedback example*

This survey was conducted among tourists who come to Rogoznica and are a part of nautical tourism sector. The findings were interesting and show why this type of field work can be useful in student's future business. During one week crews returning from their cruises were interviewed in a charter company. At the end of the check-out procedure they were kindly asked if they would be willing to fill out a short questionnaire, which all of them did. It was an interesting practice, as it is not usual to ask guests so specific questions about their vacations. It gave an insight of what they see and undergo during their time as tourists in Dalmatia. Also, the guests started to talk about yachts, their experiences and satisfaction with company's services.

It was necessary to use topic related vocabulary which helped to improve it and customers were very pleased about the fact that somebody showed interest in their time. It was a useful practice which gave insight into customers' needs and a positive experience for a student as well as for a customer. Figures 1 and 2 show how results can be presented.

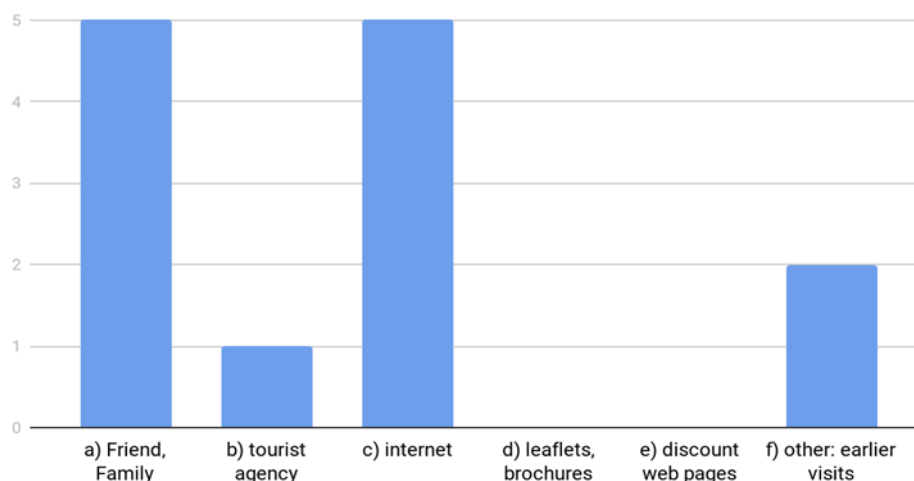
*Figure 1: Example 1*



*Source: Tena Ćorić*

*Figure 2: Example 2*

4) How did you find out about Dalmatia?



*Source: Tena Ćorić*

## 5. CONCLUSION

Different methods can be applied to teaching Business English but the focus is always on using language in business context. In order to expose students to real communication teachers must use different methods and approaches. Both traditional and innovative methods and approaches are useful but not enough for learning language for specific purposes. This is why field trip can provide a real communication model and give students an opportunity to practice new vocabulary, grammar and professional skills. Also, it requires entrepreneurial way of thinking since students prepare and organise the activity themselves. However, a successful organisation of a field trip requires a lot of creativity from teacher as well as from students. Although it is

not possible to expect the same level of involvement from all students, there are ways to involve every student. As shown in examples, students can actively participate in the activity or they can have a role of a listener and thus think critically in order to assess the quality of the activity. In each role students are exposed to foreign language in business context and are also practising important skills necessary for their future careers. These examples of field works show that regardless of students' previous foreign language knowledge or job experiences, it is possible to successfully implement field trip in studying Business English at a higher level of education.

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## DEFICIT CUTS, JOBS LOSSES AND LONG-RUN ECONOMIC GROWTH IN CROATIA

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### ABSTRACT

*In this paper, we study the relationship between the deficit, unemployment, and economic growth in the long term in Croatia. Theoretically, the reduction of public spending should impact positively on unemployment and should reduce unemployment. In this paper, we show how short and long-term effect is to reduce the economic growth and what is the justification in reducing public spending in times of crisis. Then we will answer to the question of whether it might be just the opposite, increase in public spending as a generator of economic growth in the short term and systematic work, and restructuring the economy to enable long-term stability in the country. One of the questions that this paper will answer is what econometric model is applied to study the effects of certain variables on economic growth (public spending, deficits, ...) as the most appropriate and best solution. Empirical results provide evidence that the nominal deficit and the overall unemployment explains most variations of real GDP. However, the major effect on real GDP is due to real private consumption per capita.*

**Keywords:** Deficit, Unemployment, Economic Growth, Croatia

### 1. INTRODUCTION

The main question of this paper is how to reduce the deficit by cutting public spending to affect long-term unemployment and economic growth. The data used in this paper are for Croatia in the period from 1996 until 2018. This paper intends to show whether there is a relationship between deficit reduction and increased unemployment. Theoretically, the reduction of public spending is displayed as the only solution for countries in crisis such as Greece, Italy, Spain, etc. However, we show in this paper if the cutting of public expenditure is only and best solution, and how is the impact on unemployment and on long-term economic growth. We show answers on all these questions based on annual data, and we also show the most appropriate use of certain econometric models. The question of the main hypotheses is particularly important at a time when there is the general financial crisis in the world. Given the financial crisis, we can say that the vast majority of economic experts and politicians who are policymakers advocated the reduction of public spending as the only way out of the economic crisis. The actuality of crisis and urgent problems arising in specific countries encourage policymakers to simple short-term solutions such as reducing public spending. In this paper, we show how short and long-term effect is to reduce the economic growth and what is the justification in reducing public spending in times of crisis. Then we will answer to the question of whether it might be just the opposite, increase in public spending as a generator of economic growth in the short term and systematic work, and restructuring the economy to enable long-term stability in the country. One of the questions that this paper will answer is what econometric model is applied to study the effects of certain variables on economic growth (public spending, deficits, ...) as the most appropriate and best solution. Modern econometrics today highlights several methods for establishing a relational model among economic variables in a nonstructural way. The most prominent is the vector autoregressive model (VAR) and the vector error correction model (VEC). The VAR model is established based on the statistical properties of the data. Each equation in the VAR model is an autoregressive distributed lag model; therefore, it can be

considered that the VEC model is a VAR model with cointegration constraints. This paper estimates the impact of public spending on unemployment and long-term economic growth in Croatia and has not been made yet, nor the theme in this form was studied. Precisely because of this as one of the tools to solve and potentially reduce the negative impact of the economic crisis on the Croatian economy will be developed an econometric model that will be adjusted to local conditions.

## 2. LITERATURE REVIEW

Studying the literature, we conclude that in Croatia, no one wrote about the relationship between deficit, unemployment, and their long-term impact on economic growth. Many authors have studied separately as a whole deficit or unemployment or economic growth, but no one has studied their relationship. So we have a paper from Katic M. (2006) Trends in the Croatian labor market, where the author describes the labor market for the time and after the transition. This paper examines unemployment and its causes, employment, and long-term trends. Unemployment and regional disparities are also involved in the work Botrić V. (2003), in which he observes unemployment and its movement in Croatia at the macro level, and compare unemployment movement at the regional level, and shows differences between regions. P. Bejaković and V. Gotovac (2007) deal with the problem of employment and unemployment in Croatia. This paper presents basic data on employment and unemployment in Croatia and provides comparisons with the European Union. The paper also shows the most important distinguishing features of these variables in Croatia and provides possible solutions to reduce unemployment and increase employment. Botrić V, I. Rasic, and J. Šišinački (2004) published a paper entitled "Comparative analysis of regional unemployment and regional gross domestic product in Croatia and selected transition countries". In this paper, they present the relationship between GDP and unemployment and compare results with other transition countries. M. Škare (2000) deals with the problem of unemployment in Croatia and examines the determinants of labor demand. In his work, he deals with the problem of unemployment in the countries in transition and the nature of unemployment. M. Škare and D. Skrtic (2001), in their paper dealing with economic growth and the potential impact of fiscal policy on it. This work has special significance in the present conditions because it deals with the issue of options to increase economic growth so as to reduce public spending, which is a topical subject today in a time of global crisis. D. Novotny (2008) examines the impact of debt on economic growth. P. Sopek (2010) studied the movement of the budget deficit and public debt in Croatia. He shows his work ways of measurement of the deficit and public debt and looks at the possibility of settling the public debt at a certain rate of a deficit. M. Bronić (2010) shows the budget deficit in Croatia and its impact on GDP and public debt. Švaljek S. (2000) is studying possibilities of financing the fiscal deficit in Croatia. There is a lot of researches around the world on the role of the impact of deficit reduction on unemployment and economic growth. One such study is from Eaton et al. (2013), entitled "On Deficits and Unemployment," where the authors observed unemployment in European countries rising significantly over the period under review. During this same period, these observed European countries experienced a sharp fall in the external deficit. Using the general equilibrium model for thirty-four observed countries, the authors investigated the relationships between external adjustment of inflexible wages, relative GDP, and unemployment. The authors have come to the conclusion that the wage cuts are reducing the deficit and are causing real GDP to fall. Fedeli (2014), in his paper entitled "Deficits, tax burden and unemployment," uses econometric analysis on the 19 OECD countries from 1981 to 2009, and shows that fiscal policy that generates deficits leads to diminished economic growth opportunities, causing a high unemployment rate instead. The unconventional conclusion of their work is that a fiscal system that seeks to balance the budget can only be useful to workers, provided that the tax burden is not increased too much.

A similar conclusion is reached by Matthew et al. (2019), who, in his paper “Macroeconomic Impact of Deficit Financing in Nigeria: Unemployment, Private Investment and Growth” analyses the negative impact of fiscal deficit on unemployment. Looking only at the GDP-to-unemployment ratio, Vakulenko et al. (2015) study the GDP-to-unemployment ratio in Russia, analyzing Okun's law. This paper presents and analyzes the first reliable confirmations of the importance of Okun's law in Russia. It has been proven that the reaction of unemployment to a fall in production is much stronger than the reaction to a rise in production of the same size. Comparison with other countries shows that the Okun coefficient for Russia is slightly inferior to the same indicator for most developed countries but similar to the coefficients of other emerging markets.

### 3. DATA

The data used in this study were found on the website of the Central Bureau of Statistics, the Employment Service, Croatian National Bank, Ministry of Finance. The variables used in this work are government spending per capita private consumption per capita, real GDP, real GDP per capita, nominal interest rates, average tax rates on income, government spending, private consumption, total population, total employment and unemployment, total labor hours worked and nominal deficit. The above variables are viewed on a quarterly basis for the period from 1996 to 2018. With regard to the war and its very negative impact on the data and doubts about the accuracy of keeping the statistical data, 1991 is not taken as the initial year but was taken in 1996. By studying the above variables will give a conclusion on how the observed variables are affecting economic growth, trade deficit, and unemployment. The theory in solving the model is based on stationary of time series data. The series is said to be stationary when the median and autocovariance series does not depend on the time. Stationarity is tested using the unit root test and Augmented Dicky - Fuller test. ADF test belongs to a category of tests called “Unit Root Test”, which is a proper method for testing the stationarity of a time series. Unit root is a characteristic of a time series that makes it non-stationary. Technically speaking, a unit root is said to exist in a time series of the value  $\alpha = 1$  in the below equation.

$$Y_t = \alpha Y_{t-1} + \beta X_e + \epsilon$$

Where  $Y_t$  is the value of the time series at time “t” and  $X_e$  is an exogenous variable.

In the following table, we show the results of the Augmented Dicky - Fuller test for the data used in this model.

*Table following on the next page*

*Table 1: Augmented Dickey–Fuller test*

Serijs	Level	1st difference
LNDEFICITSA	0.4154	0.00000
LNGDPR_PESA	0.1943	0.00000
LNGOVERNESA	0.3857	0.00000
LNGOVERNESA1	0.2856	0.00000
LNNOMINALSA	0.1610	0.00000
LNPOPULATSA	0.2966	0.00000
LNPRIVATESA	0.9523	0.00000
LNPRIVATESA1	0.7629	0.00010
LNREAL_GDSA	0.0745	0.00000
LNTOTAL_ESA	0.7364	0.00000
LNTOTAL_HSA	0.0365	0.00000
LNTOTAL_USA	0.0265	0.00000
LOG1SA	0.1962	0.00000
LOG2SA	0.3839	0.00000
LOG3SA	0.7580	0.00001

*Source: Autor calculation*

The Augmented Dickey–Fuller test was performed by considering trend and constant, and in all cases, the unit-root hypothesis could not be rejected. Additional Augmented Dickey–Fuller test on first differences find that all-time series are integrated of order one  $I(1)$ . Null hypothesis that time series variable has a unit root can be rejected in 1st differences.

#### 4. EMPIRICAL RESULTS

The discovery that the vast majority of macro time series contains a unit root has prompted the development of the theory of non-stationarity of time series analysis. Engle and Granger (1987) showed that a linear combination of two or more non-stationary time series might be stationary. In the event that such a stationary linear combination exists, the non-stationary time series that we observe is said that they are cointegrated. A stationary linear combination is called the cointegration equation and can be interpreted as a long-term equilibrium relationship between the observed variables. In the event that detects the existence of cointegration, it is necessary to use a Vector Error Correction (VEC) or non-stationary regression method that could estimate the cointegration equation. One of the cointegration tests that we used in the model is the Johansen cointegration test. Johansen cointegration test is based on the VAR (Vector Autoregression), and uses a methodology developed by Johansen (1991, 1995), which applies to the Group or the data or objects on the estimated VAR. Modern econometricians point out a method to establish the relational model among economic variables in a nonstructural way. They are vector autoregressive model (VAR) and vector error correction model (VEC). The VAR model is established based on the statistical properties of data. In the VAR model, each endogenous variable in the system is considered as the lagged value of all endogenous variables in the system; thus, the univariate autoregressive model is generalized to the “vector” autoregressive model consisting of multivariate time series variables. In 1980, Sims (Christopher Sims) introduced the VAR model into the economic field and promoted the widespread application in dynamic analysis of the economic system. Engle and Granger combined cointegration and error correction models to establish the trace error correction model. As long as there is a cointegration relationship between variables, the error correction model can be derived from the autoregressive distributed lag model. And each equation in the VAR model is an autoregressive distributed lag model; therefore, it can be considered that the VEC model is a VAR model with cointegration constraints.



Because there is a cointegration relationship in the VEC model, when there is a large range of short-term dynamic fluctuation, VEC expressions can restrict long-term behavior of the endogenous variables and be convergent to their cointegration relation, Zou (2018).

*Table 2: Trace test*

Date: 03/03/20 Time: 12:57  
 Sample (adjusted): 1997Q4 2018Q4  
 Included observations: 83 after adjustments  
 Trend assumption: Linear deterministic trend  
 Series: LNREAL\_GDSA4 LOG3SA4 LNTOTAL\_USA4  
 LNDEFICITSA4  
 Lags interval (in first differences): 1 to 2  
 Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.683791	83.54853	47.85613	0.0000
At most 1	0.202648	22.52696	29.79707	0.2701
At most 2	0.121445	10.52463	15.49471	0.2425
At most 3	0.066768	3.662378	3.841466	0.0556

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level

The above test shows that there is one cointegrating vector for the observed time series. Estimated VECM (1) system with one cointegrating vector is given here:

*Table following on the next page*

Table 3: Estimated VECM (1) system with one cointegrating vector

Vector Error Correction Estimates

Date: 03/03/20 Time: 13:08

Sample (adjusted): 1997Q4 2018Q4

Included observations: 83 after adjustments

Standard errors in ( ) &amp; t-statistics in [ ]

Cointegrating Eq:	CointEq1			
LNREAL_GDSA4(-1)	1.000000			
LOG3SA4(-1)	-2.278693 (0.14373) [-15.8539]			
LNTOTAL_USA4(-1)	0.076367 (0.01940) [3.93626]			
LNDEFICITSA4(-1)	-0.031870 (0.02420) [-1.31696]			
C	-8.881166			
R-squared	0.726741	0.185971	0.351011	0.370315
Adj. R-squared	0.653427	-0.032427	0.176892	0.201376
Sum sq. resids	0.035200	0.006243	0.749338	0.621451
S.E. equation	0.029301	0.012340	0.135191	0.123115
F-statistic	9.912782	0.851524	2.015924	2.191996
Log likelihood	118.6969	164.5293	37.65597	42.61501
Akaike AIC	-4.026298	-5.755822	-0.968150	-1.155283
Schwarz SC	-3.580195	-5.309718	-0.522046	-0.709179
Mean dependent	0.010570	0.002813	-0.027284	0.036142
S.D. dependent	0.049772	0.012145	0.149011	0.137765
Determinant resid covariance (dof adj.)		2.13E-11		
Determinant resid covariance		7.62E-12		
Log likelihood		377.5852		
Akaike information criterion		-12.28623		
Schwarz criterion		-10.35312		

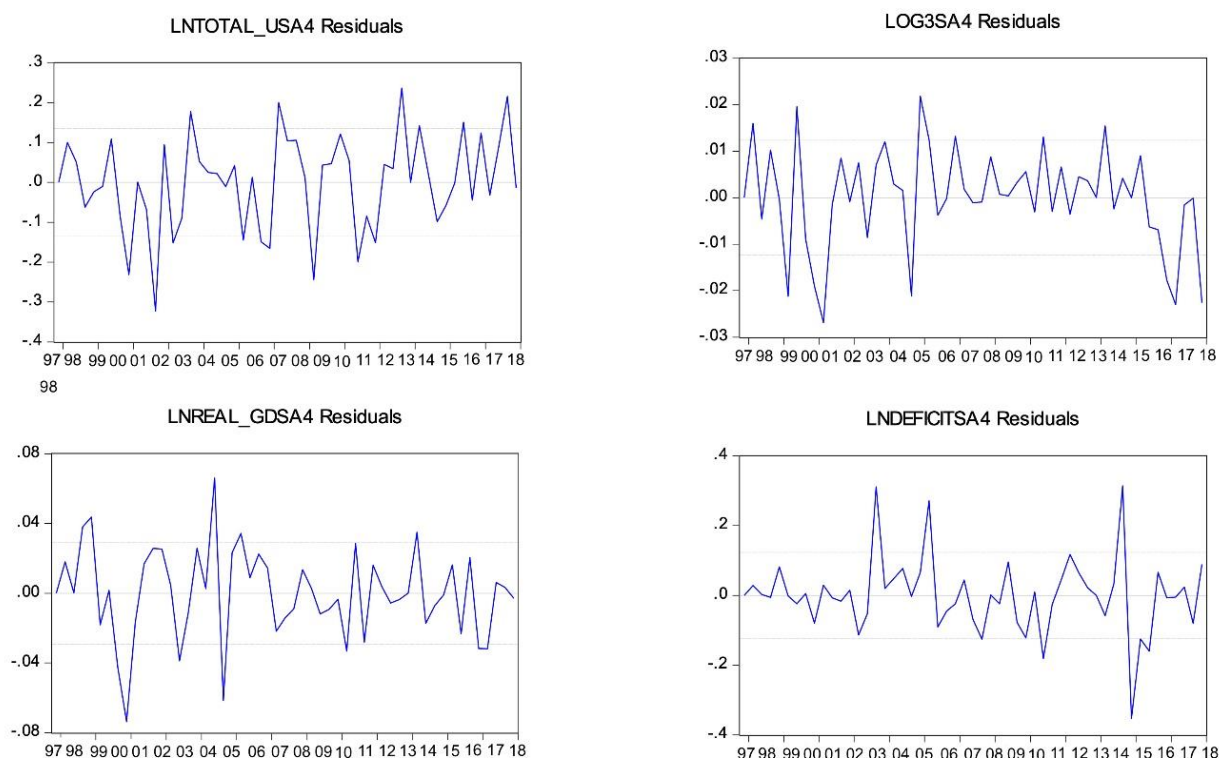
From VECM(1) estimated real GDP has following form:

$$\begin{aligned} \text{LNREAL\_GDSA4}(-1) = & -2.278693 \text{ LOG3SA4}(-1) + 0.076367 \text{ LNTOTAL\_USA4}(-1) - \\ & (0.14373) \quad (0.01940) \\ & [-15.8539] \quad [3.93626] \\ & 0.031870 \text{ LNDEFICITSA4}(-1) - 8.881166 \\ & (0.02420) \\ & [-1.31696] \end{aligned}$$

According to cointegrating coefficients, in the long run, it can be expected 2.27% increase of real per capita private consumption if real GDP increases 1 %. On the other hand, a 1 % increase of real GDP decreases total unemployment by 0.07 %. Finally, the increase of real GDP for 1 % would cause a 0.03 increase in the nominal deficit. From this equation, we can see that there is a very large correlation between GDP and personal consumption, and we can conclude that personal consumption is very important for economic growth and progress. However, increasing GDP very little reduces unemployment, and we can conclude from this that increasing GDP alone will not solve the country's unemployment problem.

Obviously, unemployment is contingent on some other variables and impacts, and GDP itself does not have a large correlation with unemployment. The following figure shows the graphs of the residuals of the above equation.

*Figure 1: Residuals of VECM estimates of real GDP*



*Source: Author calculation*

From this figure, we see that except for a few shocks in certain time periods, the residuals are within the given framework.

#### 4.1. Vector error correction – Impulse response and variance decomposition

ARMA impulse response follows the response of the estimated ARMA equation on the impact of shock innovations. Impulse response functions follow the reaction of the variables on a one-time shock in innovation. It can be interpreted as a response to an impulse, which is always the same shock that occurs in each period, starting from the first period. In the event that the estimated ARMA model is stationary, impulse response will gravitates toward zero, while the accumulated impulse response gravitate toward the long-term value of the observed variables. These asymptotic values are displayed as dots on the graph. Shock in  $i$  variables not only directly affect  $i$  variables, but also affect all endogenous variables through the dynamic structure allowing LAGs wide margins in the VAR. Impulse response function follows a one-time shock impact of innovation on the current and future values of endogenous variables. If innovations  $\varepsilon_t$  are not currently correlated, in this case we interpreted impulse response function directly from results. In this case  $i$  innovation  $\varepsilon_{it}$ , just presents shock to the  $i$  endogenous variables  $y_{it}$ . Innovations are often correlated, and can be seen as to have a common component that can not be assigned to any specific variables.

In order to interpret the impulses, it is customary to add transformation  $P$  to innovation, in a way that those in this case become uncorrelated:

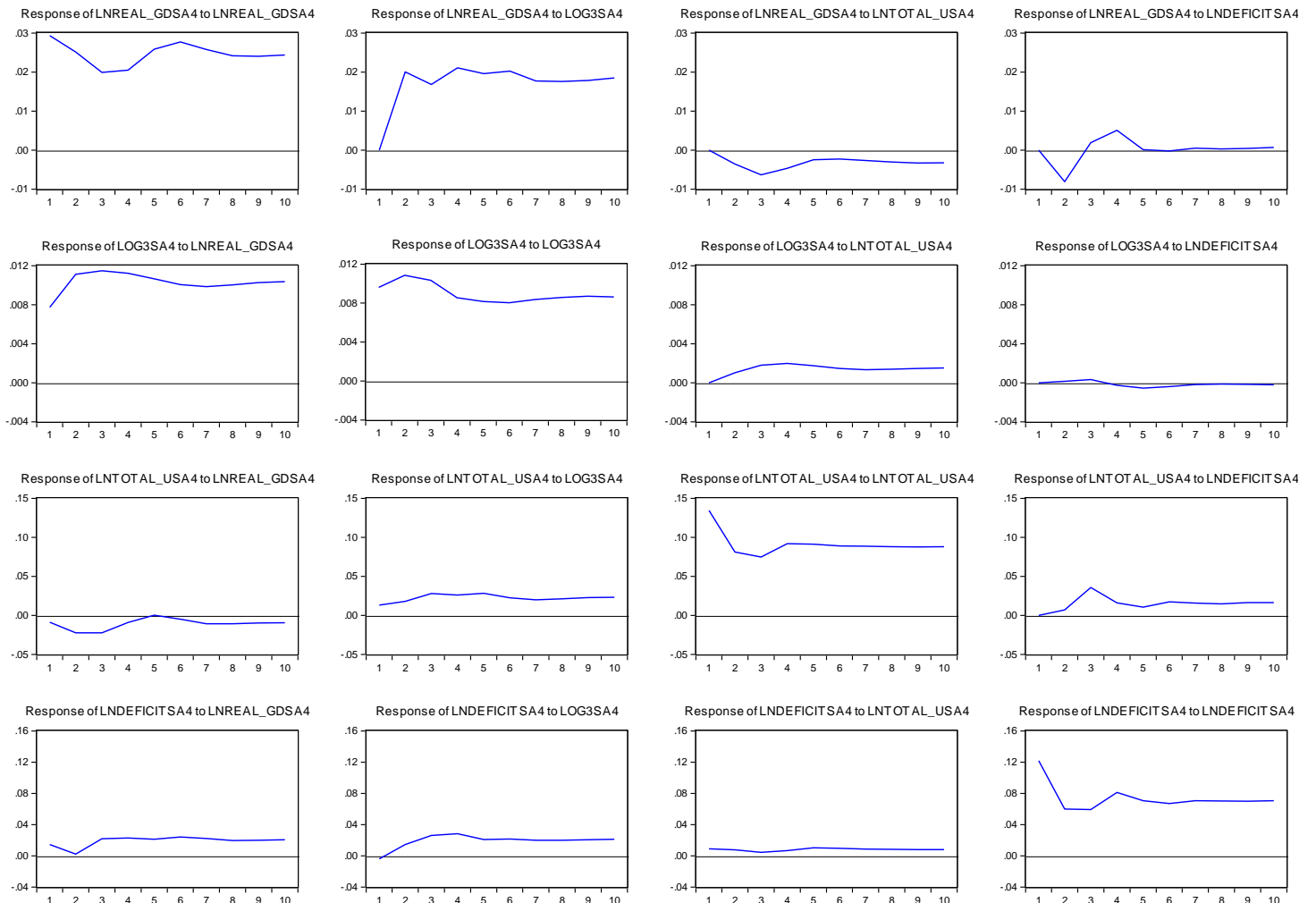
$$v_t = P\varepsilon_t \approx (0, D) \quad (1)$$

Where  $D$  represents a diagonal covariance matrix.

And while the impulse response function monitors the effects of shocks on endogenous variables and their impact on other variables in the VAR., variance decomposition separates the variance of endogenous variables on the components of the shock in the VAR. In this way, variance decomposition provides information about the relative importance of each random variation in the impact of the variables in the VAR. In this way we can observe the importance of the variables in relation to each other. Figure 2 shows the impulse response function for the VECM estimation of real GDP. According to this figure, we can conclude that the greatest impact of all observed variables on the real GDP variable has real private consumption per capita. The other two variables, the overall unemployment rate and the nominal deficit, have much less effect on real GDP.

*Figure 2: Impulse Response Function for VECM estimate of real GDP*

Response to Cholesky One S.D. Innovations



Source: Author calculation

*Figure 3: Variance decomposition function for VECM estimate of real GDP*

Variance Decomposition

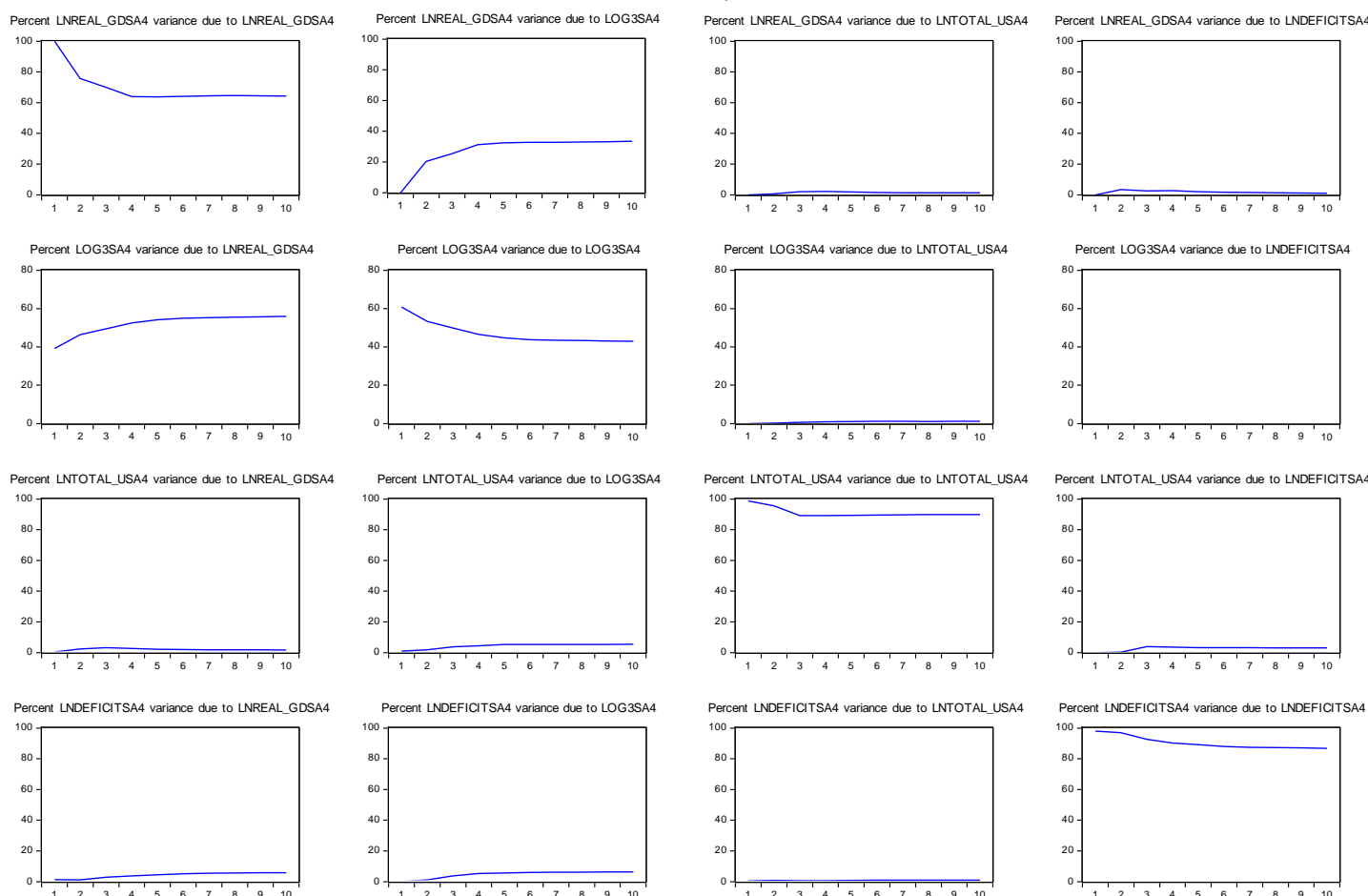
*Source: Author calculation*

Figure 3. shows the variance decomposition function of VECM estimates of real GDP. From this figure, we confirm the influence of variable real private consumption per capita on real GDP, as in the case of the impulse response function.

## 5. CONCLUSION

To describe the real GDP in Croatia, we use the number of variables, from which are shown as the most relevant, real private consumption per capita, the nominal deficit, and total unemployment. From describing this variable, we can draw conclusions about long-term economic growth. Long-run real GDP is estimated, indicating a slow speed of adjustment of removing disequilibrium within the VECM framework. Empirical results provide evidence that the nominal deficit and the overall unemployment explains most variations of real GDP. However, the major effect on real GDP is due to real private consumption per capita. For future research, we should collect more data for many years and thus allow a better assessment of the impact on real GDP. What we can conclude from this paper is that the VEC model is the most appropriate econometric model for calculating the dependence of GDP deficit and unemployment. The VEC model is a VAR model with cointegration constraints. Because there is a cointegration relationship in the VEC model, when there is a large range of short-term dynamic fluctuations, VEC expressions can restrict long-term behavior of the endogenous variables and be convergent to their cointegration relation. The results obtained from the model show that there is a very high correlation between GDP and personal consumption. Personal consumption is a major generator of economic growth, and this is illustrated in this paper.

What is surprising as a result is the display of a very weak dependence on unemployment on GDP growth. It is logical to assume that a rise in GDP will lead to a decrease in unemployment, but in the model presented, we have obtained results that are not in line with this conclusion. This model shows a very small dependence on unemployment and GDP growth, from which we can conclude that there are some other influences and variables affecting unemployment that we did not observe in the given model. For future research, it would be interesting to investigate what results from other econometric models provide compared to the VEC model. If so, it would be interesting to study the impact of other variables on non-GDP related unemployment. The paper itself showed that there is no correlation between GDP and unemployment, so it would be interesting to investigate what are the variables that affect unemployment, or whether another econometric model shows a different correlation between unemployment and GDP.

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## **RISK MANAGEMENT CONCEPTS IN PROJECT FINANCE: THEORETICAL FRAMEWORK**

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### **ABSTRACT**

*Global experience in financing and implementing real investment projects indicates that such activities have a high level of risk compared to other types of entrepreneurial activity. This is due to the long life cycle of real investment projects and uncertainty about future results. Modern infrastructure projects become increasingly complex, which leads to difficulties with their implementation. These difficulties are associated with a delay in the implementation of projects, cost overruns, the use of unsuccessful methods of procurement of necessary materials, lack of funding and a project risk management system. The study showed that the main mission in the implementation of the base components of project finance should occur through banks, although investment funds and financial institutions related to cash flows may be involved in this process. The structure and allocation of project finance risks has been determined, including risk identification, impact and probability assessment, risk mitigation, risk re-classification and risk prioritization. Researches have shown that banks are the main players in the project finance market. Project finance is associated with the risk of its implementation, since there is a need to attract significant amounts of financial resources that project participants receive both by obtaining bank loans and by issuing various types of securities. To minimize the risks of project finance it is possible to use such strategies as: risk management strategy, supply chain strategy and search strategy. The main risk management instruments in project financing include: measures of ensuring the fulfillment of contractual obligations, financial market instruments, special funds and reserves.*

**Keywords:** *Cash flow, Financial instrument, Project finance, Risk*



## **1. INTRODUCTION**

In conditions of transformational conversions of economic processes in the state, real investment is obtaining a great importance, without which it is impossible to refresh, develop and innovatively increase the production potential real sector of the economy's subjects. Large infrastructure projects, such as the construction of highways, airports, power stations and ports, are used as essential instruments for directly or indirectly increasing wealth and ensuring stability by stimulating economic development. According to C. Calderon, E. Moral-Benito and L. Servén (Calderon et al., 2011) – World Bank experts, an increase in the number of structural projects by ten percent leads to an increase in GDP by one percent. Modern infrastructure projects are becoming much more complicated, which leads to difficulties with the implementation. These issues are associated with a delay in the realization of projects, cost overruns, the use of unsuccessful methods of purchasing necessary materials, lack of funds and a project risk management system. Due to the high technical, legal and regulatory complexity, long-term investment projects with a high cost of infrastructure generally take the form of project finance, which one is the most effective form of fundraising private capitals for investments in infrastructure development. The main factor in the mismatch between the need of investment in infrastructure and the attraction of private investment is the fact that such investments entail complicated and expensive legal, financial and technical expertise. Private investors are prepared to bear significant financial costs for such projects only if there is an adequate banking support (Bank for International Settlements, 2014). Considering the above, relevant is the issue of profile accounting and risk management associated with project finance.

## **2. PROJECT FINANCE IN GLOBAL SCOPE**

The definition of project finance can be found in almost any book on finance and market analysis. According to the generally accepted approach, project finance is the investment of a legally independent company (SPV – special purpose vehicle) in a specific project without (or with limited) right of recourse. Investments usually last for an initially defined period (Calderon et al., 2011; Yescombe, 2013; Hoffman, 2007; Tinsley, 2014). Scientific papers also study the structural characteristics of project finance related to risk and its management, based on a contract structure, the cash-flow-oriented approach and the establishment of higher debt ratios and longer repayment period compared to conventional corporate lending (Fletcher et al., 2014; Gatti et al., 2007). F. Blanc-Brude and D. Makovsek (Blanc-Brude et al., 2013) had notice that the risk of construction in financing infrastructure projects is quite manageable and expected cost overruns should be zero. It was also noted that the construction risk, which a private investor falls into when financing infrastructure projects, is different unlike the risk that a public sector investor falls in with traditional investments in infrastructure development. Researches are also paying attention to the need of considering the credit risk in project finance. In accordance with the principle of risk management “you cannot manage what you cannot measure”, project investors try to find out what their debt loss is in scale (Dong et al., 2014). The main issues connected with the risk management system of project investments, determination characteristic risk factors for project finance are considered in the scientific papers of P. Nevitt and F. Fabozzi (Nevitt et al., 2013), G. Walter (Walter, 2017), M. Malloy (Malloy, 2004). The global experience in the preparation, financing and implementation of real investment projects indicates that such activities have a high level of risk compared to other types of entrepreneurship. This is usually interpreted as a long life cycle of real investment projects and uncertainty about results. Under such circumstances, particular attention is paid to methods of financing projects, among which project finance plays an important role. Therefore, particular attention is required for studying methods of financing and risk assessment in investment projects, among which the problem of project finance is especially important. The relevance of researching this issue is enhanced by the rapid process of digitalization all over the

world. Based on the foregoing, project finance should be understood as the type of bank financing using various sources and financial instruments, provided that the sources of debt repayment are project cash flows, and the debt is secured by the assets of finance participants to apply risk minimization methods and instruments related to with this process, ensuring the viability of the project itself and obtaining projected returns in a certain period, which is determined by criterion – the long-term placement of cash flows, which is accompanied by inflationary risk. The dynamics of the project finance's global market for are presented in tab. 1.

*Table 1: The dynamics of the project finance's global market in 2011–2019*

Indicators	2013	2014	2015	2016	2017	2018	2019*
International institutions and organizations loans, \$B	56,19	59,53	37,59	30,47	28,33	37,57	8,81
Rate of increase, %	0,12	5,93	-36,85	-18,93	-7,0	32,6	-53,1
Bank loans, \$B	154,50	165,11	178,76	150,57	138,90	199,37	64,59
Rate of increase, %	19,37	6,87	8,26	-15,77	-7,7	43,5	-35,7
Project bonds, \$B	28,02	26,90	27,97	29,00	46,15	35,80	14,30
Rate of increase, %	62,42	-4,00	3,96	3,68	59,1	-22,4	-7,2
Corporate rights, \$B	46,18	556,95	45,71	43,09	42,74	31,60	15,28
Rate of increase, %	-15,56	20,61	-17,92	-5,75	-0,8	-26,1	11,9
Total, \$B	284,89	307,24	290,03	253,04	256,12	304,34	102,99
Rate of increase, %	10,64	7,84	-5,60	-12,73	1,2	18,8	-30,6
Amount of deals	640	805	892	667	926	1030	364
Rate of increase, %	-4,62	25,78	10,81	-25,22	38,8	11,2	-24,9

*\* 1st half of 2019 compared to the indicator for the 1st half of 2018*

*(Source: Calculated by the authors based on IJ Global, 2020)*

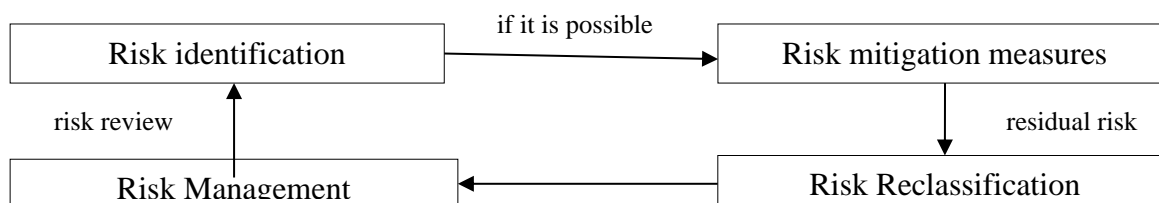
In 2011, according to “IJ Global”, bank project finance was not carried out at all, since, after the financial crisis of 2008, banking institutions still avoided such assets. The leaders then were loans from international financial institutions and regional development banks (53%), the large part also had financing from the sale of corporate rights (36%). Yet in 2016, the situation changed dramatically, and commercial banks (50%) became the market leader. Since then, the share of loans from international financial institutions began to decline, amounting to 12% in 2016-2017. Fluctuations in the share of corporate rights as part of project finance instruments in the global market have been relatively stable, varying between 16-17% over the past 5 years. The share of project bonds until 2017 also did not show significant volatility, but in 2017 reached 18%. In 2019, the results of data analysis only in the first quarter do not allow to state that trends regarding the structure of the project finance market will continue until the end of the year, but now we are seeing a significant reduction in the share of loans from international financial institutions and regional development banks to 53.1%, and also the growth in the share of project bonds up to 7,2 %. Project finance is also a type of special credit exposure established by the Basel Directives. Considering this, risks of project finance should be assessed separately from risks of ordinary corporate loans in banks that use the internal rating methodology. The directives protect several groups, two of which – resources' financing and (partially) objects – are not included in the general definition of project finance. At the same time, project finance and real estate financing look like separate categories, although banking practice does not distinguish between them (EBA, 2016). Project finance originated in the 13th century, when the Florentine Merchant Bank financed exploration of the Devonian silver mines using compensations from mining (EBA, 2016). Until the 1990s, this type of lending was used for long-term capital-intensive projects with high cost, as a rule, in excess of several million US dollars, but by the end of the 20th century, project finance was also provided to projects of

lower cost (Finnerty, 2007). Since then, the practice and concept have improved in terms of instruments, faced with governments' fiscal restrictions around the world.

### 3. ISSUES OF RISKS IN PROJECT FINANCE.

The necessity of project finance is mainly caused the fact that, firstly, large infrastructure projects are necessary and useful for economic development, and secondly, for the implementation of these projects, risks must be evenly distributed or transferred to those parties that are better able to bear them. This moment, together with the huge size of projects – both in time and in money terms – demonstrates that risk management is one of the most important aspects of successful project finance. Since the implementation of the project is determined by significant time, and not at all stages risks are the same, it is important to maintain a continuous cycle of risk identification, mitigation and management. Fig. 1 shows this cycle. Each party involved must implement autonomous risk management, based on its own point of view.

*Figure 1: Risk identification cycle in project finance*



*Source: Compiled by the authors based on Gatti, Stefano, 2007; Nevitt, Petter, 2000; Yescombe, Edward, 2013; Ravis, Jhon G. 2013*

The fact that the parties involved in the project finance process can transfer risk from one company to another means that the risks are different for each of the parties, that is, that what is a “mitigation” for one side, may be a “new risk” for the other. For example, SPV faces the risk of late completion of the construction phase (this will not only delay revenue, but also create a situation where SPV is already responsible for repaying some loans by the actual completion of the project). SPV can reduce this risk by adding caution about late delivery to contracts with engineering companies. Thus, SPV is protected from risk, while engineering companies take it upon themselves. Such a distribution of risk seems reasonable, since it is the engineering company that will perform the work and should be able to assess the time required to complete the work, and this is the only party that can act, for example, adding more workers to ensure the timely completion of work. Thus, each side has its own opinion on what risk is and how to manage it. Each involved company should form its own vision of the relevant risks, to mitigate and constantly monitor the main risks, if possible, so that they remain minimal. For example, it is not enough to determine the risk that the construction phase may end late – only daily observations and process accelerations can minimize losses. Therefore, each side must constantly carry out the basic cycle of risk management, including the following aspects:

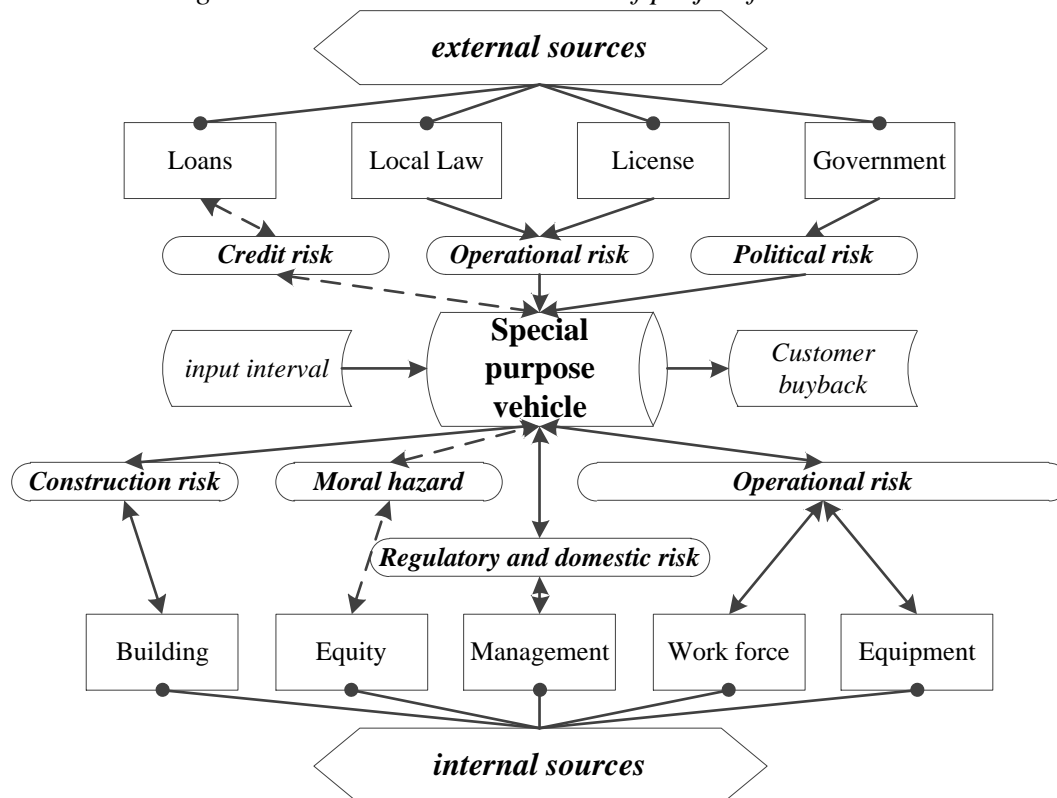
1. Risk identification. Main risks can be determined by following checklists, but they need to be checked regularly. Some risks may be inactive or may not be identified to an unexpected event. Such new risks should be added to the list at the same time that measures are taken to reduce them in order to control the consequences;
2. Impact and probability assessment. When assessing risk, it is not enough to consider only probability or only influence, it is absolutely necessary to monitor both aspects. Also, the probability and impact will change over the life of the project (for example, when the project is implemented, the risk of construction delays drops to zero). Since it is often impossible to accurately quantify these parameters, they usually resort to the use of a qualitative scale: for example, very low, low, medium, high and very high;

3. Risk mitigation. Where it is possible, risks should be minimized. For example, if there is a risk that the construction phase of the project will be delayed, then the SPV may include a “deferred delivery clause” in the contract and provide a clause on compensation for losses. The engineering company, in turn, reduces this risk by ensuring that the deadlines are realistic, that – with the involvement of subcontractors – their contracts include this item, and – for their own employees – this will ensure effective management of the workforce in places;
4. Risk re-classification. The residual impact of risks will change with effective management. If the risk is correctly identified as critical, and appropriate measures are taken, the corresponding risks should be reassessed;
5. Risk prioritization. Based on the two above-mentioned aspects, it is possible to make a one-dimensional classification of all risks based on MCDA (multi-criteria decision analysis), usually something related to WPM (weighted product method), which is the most suitable. This prioritization can be presented as a “risk matrix”.

The risk analysis in project financing should contain three stages that are similar to the process of general corporate risk management, namely: identification and assessment of risks; risk sharing and transfer; analysis, management and reduction of unallocated risks (Ravis, Jhon G., 2013). The first step is to identify relevant characteristics and assess the degree of importance for each factor on the profitability of the project. At this stage, both the probability of the onset of risk and the expected effect should be evaluated simultaneously. This concept is similar to the equality  $EL = PD \times LaD$  is often used and applied by quantifying credit risks: expected losses (EL) are equal to the product's probability of default (PD) and expected losses from default of the project (LaD) (Gatti, Stefano et al., 2007). The distribution of risks for this project occurs at the second stage. The most effective methods of distribution that are commonly used in project finance is the contractual framework. More risks should be transferred to partners in the framework of the contract system so that lenders will be able to finance the project. By slightly changing the classical logic of considering this issue, we can slightly modify the classical representation of the structure of project finance (Fig. 2) to illustrate the definition and distribution of risks. Based on Fig. 2, it is advisable to highlight two points. One of them concerns the differentiation of risks, refers to the stage of project implementation. The second one relates to postoperative structures i.e. business models. At its essence, the risk of implementation remains until the start of the project and the start of useful operation. The launch of a project substantially depends on measures to minimize business and strategic risks, which are complemented by certain elements of operational risk. When identifying risks associated with project finance, attention should be paid to their classification. Some of the alternatives include: construction period and operational risks in accordance with the phases of project finance; construction risks include technological risks, and operational risks include market risks; risks associated with free cash flow and cash flow financing; project risks, financial risks and political risks (Yescombe, Edward, 2013); sixteen risks in project finance (Tinsley, Richard, 2014); S&P – six risks; risks are identified by export credit agencies.

*Figure following on the next page*

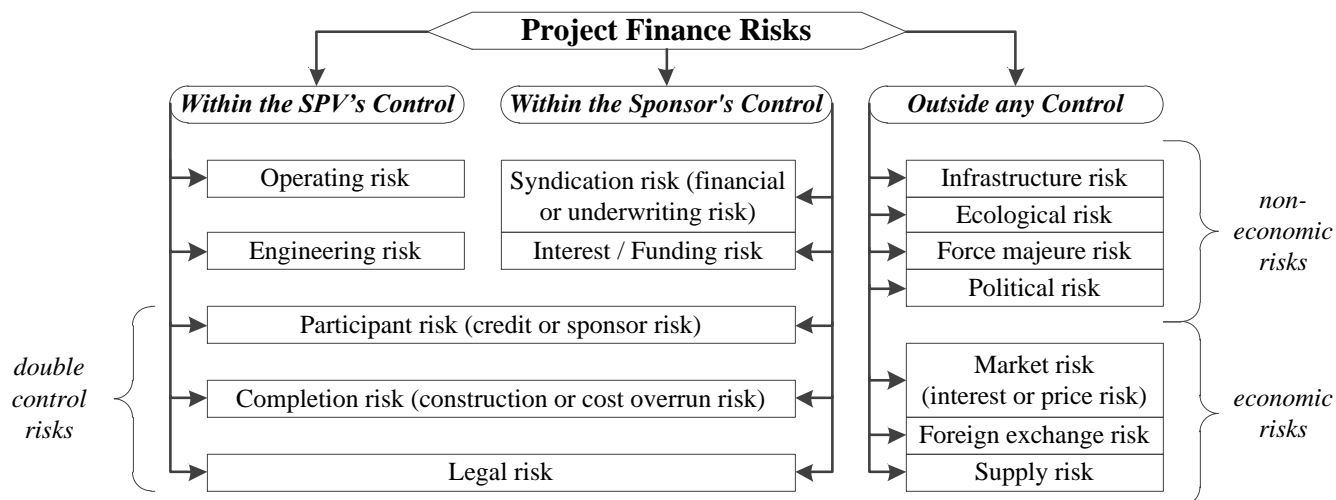
Figure 2: Structure and allocation of project finance risks



Source: Compiled by the authors considering Walter, Gustav, 2017

Risks associated with project finance contain economic risk, risks associated with construction, operational, technological risk, legal, political, regulatory impact risk (Fig. 3).

Figure 3: Classification of project finance risks, compiled by the authors considering



Source: Tinsley, Richard, 2014

#### 4. STANDARDS FOR RISK-MANAGEMENT IN PROJECT FINANCE

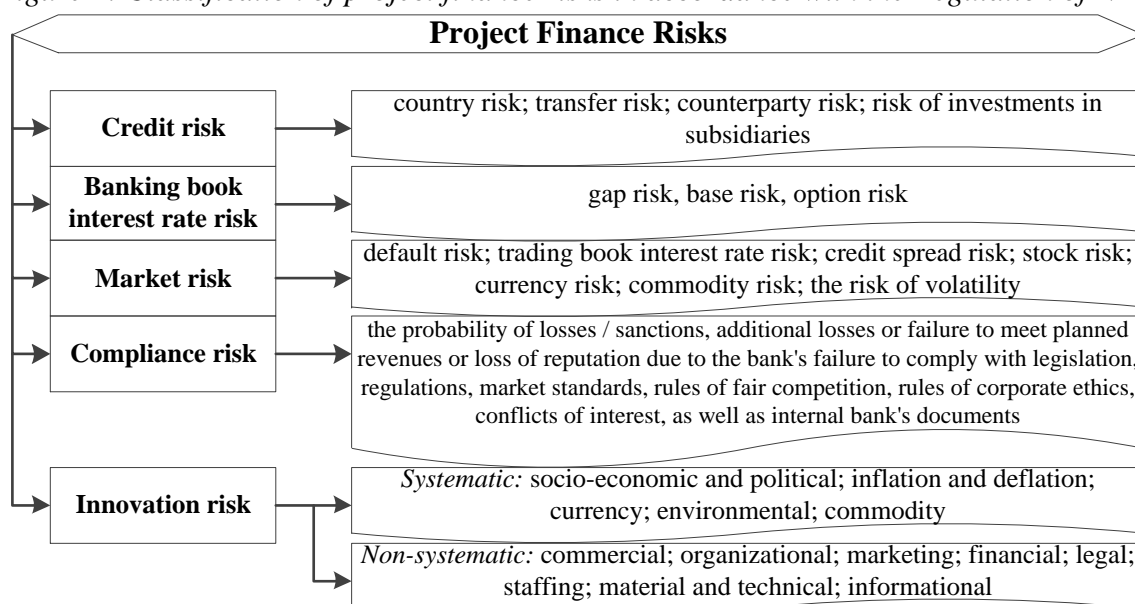
Nowadays, main approaches to risk management in the world are formed by such organizations and standards:

- FERMA (Federation of European Risk Management Association) – in its documents a model for identifying events is proposed;

- ERM COSO (Enterprise Risk Management – Integrated Framework Committee of Sponsoring Organizations of the Treadway Commission) – risk management principles developed by the Committee of Sponsoring Organizations of the Treadway Commission together with PriceWaterhouse Coopers;
- ISO / IEC Guide 73 is a standard developed by the International Organization of Standardization, which describes a systematic approach to risk assessment and management;
- PMBoK (Project Management Body of Knowledge) is a project management standard established by the American Project Management Institute (PMI). Describes all stages of the project life cycle, including elements of project risk management;
- Basel II & Basel III – methodological approaches to identifying and predicting risks that may arise in the organization, risk classification, determining its level and rating.

In the context of considering the Ukrainian experience in identifying risks associated with project finance, participants of which are banks, the Regulation “On the Organization of a Risk Management System in Banks of Ukraine and Banking Groups” adopted by the Board of the National Bank of Ukraine dated June 11, 2018, no. 64, was taken as the basis (Fig. 4).

Figure 4: Classification of project finance risks in accordance with the Regulation of NBU



Source: Compiled by the authors based on National Bank of Ukraine, 2018

The main instruments for managing project finance risk include:

- Instruments for enforcing contractual obligations: state guarantees (government guarantees); guarantees of international financial institutions; bank guarantees; sureties; implied warranties (long-term and fixed-price contracts);
- Financial market instruments: letters of credit (reserve and irrevocable); bill instruments; credit notes;
- Special funds and reserves: reserve funds; deposits in special accounts; special mode bank accounts (escrow accounts); tender participants' depositing funds and competitive procedures and procurements (Naumenkova Svetlana et al., 2013).

The second aspect, which is rarely mentioned in professional scientific literature, is sponsor risk. High leverage projects provide a lower coefficient of financial investment of owners.

Additional contributions are usually provided by companies that they have debts, thereby reducing existing contributions. When discussing moral hazard in the scientific literature, the main factors that can be solved by financing the project are quite profitable. Significant risks, meant to be accounted, do exist. On the one hand, an investor is less interested in supporting the continued functioning of the project than a lender. The reasons are such factors as a small share size, limited liability, and the inability to exercise the right of recourse. Despite the fact that it is precisely these positions are indicated as advantages, they do not create the necessary conditions for motivating an owner to make a profit out of the main contract. These phenomena affect significantly moral hazard, creating additional difficulties for banks and other lenders in the applied aspect. However, professional literature rarely addresses this issue (Triole, Jean, 2006). The third stage includes the management of unallocated risks. Professional literature emphasizes the role of modeling, as well as the creation and detailed analysis of business plans based on cash flows (Ravis, Jhon G., 2013). Since financial modeling is not used to make accurate predictions, but, for a greater extent, to identify probable threats, to improve interpretation of project's logic and structure, to run more complex analytical procedures with basic documents and contractual relationships, to supervise projects and calculate criteria for early warning (Anastasios, Katsikas, 2015), the goals of models in project finance indeed are specific. It should be noted that an important role in providing minimization and full coverage of undistributed risks is played by the share of the sponsor's property, liquidity and value of financial instruments (securities and reserve assets), and last, but not least, profile transactions related to optimizing cash flow coverage (in particular, scope agreements).

## **5. DISCUSSION ON RISK ISSUES IN PROJECT FINANCE**

Following the above concept “risk identification – risk allocation – residual risk management”, it can be found rationale for the significant leverage and debt burden in project finance. A simplified calculation of threats is explained mainly by the unification of activities' directions. The allocation of most risks between the counterparties involved is possible through the use of a contract system. Unallocated risks are usually fairly optimally covered by securities and derivatives – however, the quality and liquidity of such assets play a decisive role. In case of urgent needs, additional contributions to the authorized capital can perform a similar function. The fundamental task for banks and other lenders in the last decade is the analysis and estimation of credit risks when dealing with projects, because project finance, as a sub-division, is characterized by high levels of loan debt and significant credit indices. Particularly noteworthy are approaches to the quantitative assessment of threats in this form of lending, although the analysis and calculation of qualitative characteristics of riskiness also require increased efforts. Since the methodology and standard indicators of quantitative measurement in project finance are still the subject of fundamental, rather than applied aspect, usage of corporate crediting assessment instruments (ratings based on the balance sheet, statement of comprehensive income, other forms of reporting and statistics) is inappropriate. This status is explained by the long-term and structured character of loans, the uniqueness and quality of each new project, the lack of credit history, poor adaptation to standard approaches and corporate rating lists. All this explains the objective need for analysis within the framework of this study main risk assessment banks' models for project finance. Considering this, the relevance of EBA guidelines (2016) is rising, which determine the following aspects of the evaluation criteria: financial stability, political and legal environment, contractual parameters, shares of owners and sponsors, as well as a securities portfolio. At the same time, there were no fundamental differences in the stages and methodology compared to the internal guidelines of rating agencies. The result of applying this approach is an estimation dot on a five-point scale, where the highest mark (5) means default, and the minimum (1) means fundamental stability. The definition of risk models in project finance assumes their structural nature, which allows to use

the probability of default as an indicator of the value of a company's property, insufficient to compensate for loans and other third-party obligations. Besides structured models, a group of statistical approaches known as reduced models is also used in practice. According to the ideology of its construction, the onset of default is always unexpected and does not have a discrete connection with any group of assets. Thus, the root-causes of default are considered as external variables that cannot be calibrated for market indicators' errors. Nevertheless, the development of these models was not reflected in the scientific literature, remaining the prerogative of corporate risk management systems. Standard definitions of default apply to project finance in the same way as regular corporate loans. As mentioned earlier, the professional literature also uses a structured approach or, more precisely, "first-pass" models to evaluate a project's default. The highest probability of default for a project exists during the maturity of the raised funds, since it is during this period a threat of insufficient cash flow is relevant. Based on this, it is important to ensure that the cost of cash flows exceeds the maximum level of solvency. This approach accurately reflects banking practice in such situations and therefore is acceptable. The project may default if the cash flow falls below the level necessary to service a debt, considering further deterioration of such situation. Modeling based on these postulates makes it possible to clearly define limit values of indicators and include clauses in the contract to protect lenders from an unfavorable scenario. Such indicators are usually coverage ratios, such as LLCR, DSCR, FSCR and similar.

## 6. CONCLUSION

The main players in the project finance market are banking institutions. Project finance is associated with the risk of its implementation, since there is a need to attract significant amounts of financial resources that project participants receive both by obtaining bank loans and issuing various types of securities. To minimize the risks of project finance, it is possible to use such strategies. Risk management strategy (criteria, leverage, diversification, hedging, execution). Supply chain strategy: modification through changes in technology and through production outsourcing; geographical diversification to reduce danger risk and price risk; diversification of political pressure to reduce political risk and tax risk; hedging currency risk, matching incoming and outgoing capacity and flexibility of supply chains; coordination of supply chain capacities with marketing opportunities; restructuring the value chain, alternative supply chain interactions, supply chains designed to reduce cycle times and inventory, simplifying supply chains to reduce the risk of project finance complexity. Search strategy: consolidation of costs to improve flexibility; diversification of suppliers to reduce supply risk, price and quality risk, danger risk; hedges of currency risk; components selected from a single source to reduce complexity; expanding the exchange of information with major suppliers. Main risk management instruments in project finance include measures of ensuring the fulfillment of contractual obligations, financial market instruments, special funds and reserves.

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## THE IMPACT OF HOUSEHOLD ENERGY CONSUMPTION TOWARDS THE TRANSITION ON LOW-CARBON ECONOMY

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### ABSTRACT

*Climate change has been a severe problem in recent years, and countries are fighting it to transition towards a low-carbon economy. To reduce the greenhouse gas emissions that have the most significant impact on the pollution, the European Union gives guidance to the Member States to reduce greenhouse gas emissions in the environment. The European Union guidance has two categories: the European Trading Scheme (ETS) and the other is non-ETS sectors. One of the main non-ETS sectors is households, and the EU tries to reduce greenhouse gas emissions in that particular sector. Besides, the Seventh Environment Action Programme includes the objective that housing's environmental impact should be reduced between 2014 and 2020. To measure households' effect on energy consumption and greenhouse gas emissions, it is necessary to monitor all the relevant items and set up legal constraints. Whenever household consumption is directly responsible for environmental pressures, it is leaving a carbon footprint. Moreover, household energy consumption is measured by household appliances, the average size of the dwellings, the heating/cooling systems used, and the implementation of energy efficiency measures. This paper aims to provide a broader quantitative analysis of household energy consumption and household greenhouse gas emissions within the EU to impact the transition towards a low-carbon economy. It focuses only on the household sector because there is a mismatch between the roles and responsibilities conveyed by current climate policies and how the household perceptions. The main objective is to provide future implications for changes in the regulatory framework.*

**Keywords:** *Energy consumption, Greenhouse gas emissions (GHG emissions), Households, Low-carbon economy (LCE)*

### 1. INTRODUCTION

As an emerging problem, climate change is frequently associated with companies that are emitting vast amounts of greenhouse gas emissions (GHG emissions). But companies are not the only emitter which produces GHG emissions; households are also GHG emitters. In recent years, scientists are trying to find a way to help households reduce their GHG emissions. It is necessary to keep track of household consumption energy consumption because energy consumption is emitting a lot of GHG emissions. From the government point of view, it is much easier to keep track of companies' GHG emissions than households because there are no legal institutions that can monitor household energy consumption. Each household consumes energy that it can afford, and no one can restrict that energy consumption. When it comes to household appliances, the greener appliances cost more than others, and households usually prefer to pay less for the same appliance if the difference in energy consumption is not significant.

The substantial difference in energy consumption between different appliances depends on household members' subjective opinions. Many challenges arise from monitoring the household's energy consumption, such as setting targets on energy consumption per household and tracking it. Besides, it is challenging to impact the behavioural decisions that the person is making.

## 2. HOUSEHOLD ENERGY CONSUMPTION AND CARBON FOOTPRINT

Households' connection with GHG emissions mainly derives from energy use in residential buildings and a small percentage of the waste produced (Karakosta, 2015). To study the deep connection between GHG emissions and energy consumption in households, authors will study final energy and electricity consumption, different fuels' contribution to the households' final energy consumption and GHG emissions per capita in the European Union. GHG emissions from the household sector represent 17% of total carbon dioxide (CO<sub>2</sub>) in the world, and it is essential in mitigating global climate change (Nejat et al., 2015). Zhang and Wang (2017) studied 144 countries and their carbon abatement policy measures from demand-side and supply-side perspectives based on 144 countries. According to their study, many countries apply mitigation strategies to reduce energy consumption. Besides, these strategies include both financial and non-financial incentives. Cardenas et al. (2016) define financial incentives by such means as taxes, support funds, premiums, and also non-financial incentives such as regulations, standards, and prohibitions. The European Union is an excellent example of how to set climate strategies on different levels. It can be seen that various national and supranational climate policies in the EU are aiming to reach a target of a 20% reduction in GHG emissions by 2020 (Schaffrin and Reibling, 2015). As a significant consumption sector, households need to be studied in depth. Table 1 specifies how household energy consumption plays an essential role in carbon emissions in different EU countries. The studies made often provide insights into the measures used for its reduction (Zhang and Wang, 2017).

*Table 1: Studies of household carbon emissions in the European Union*

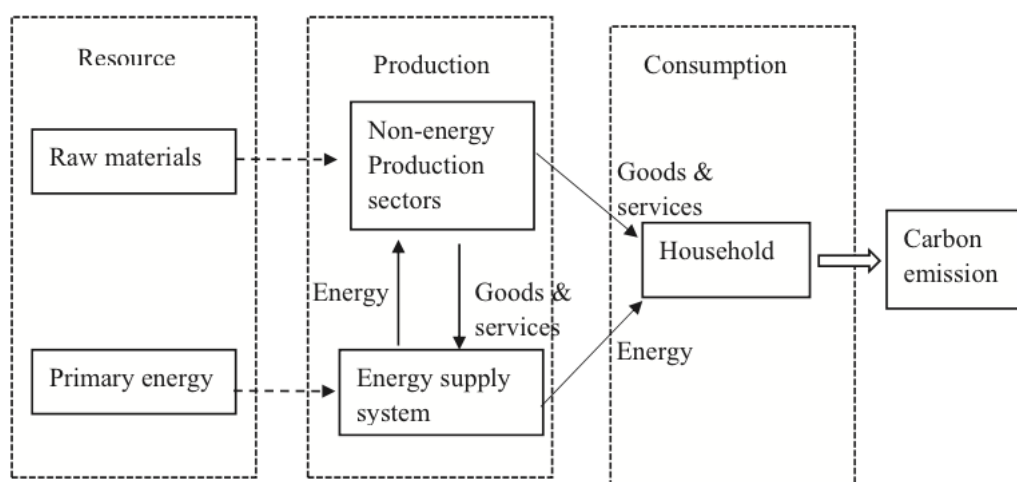
Source	Country	Description
Streimikiene (2015)	Lithuania	Households consume 1/3 of the total energy in Lithuania. Household GHG emissions are directly related to the amount of energy consumed in households.
Munksgaard et al. (2000)	Denmark	Danish household consumption increased by 58% over the period 1966–1992, while CO <sub>2</sub> emissions only increased by 7%.
Vringer and Blok (1995)	The Netherlands	One way of reducing CO <sub>2</sub> emissions is to reduce direct and indirect household energy requirements. The total average energy demand per household in the Netherlands in 1990 was 240 GJ, of which 54% was indirect consumption.
Sanchez-Choliz et al. (2007)	Spain	The analysis reveals that pollution in Spain is closely linked to food production, energy, extractive industries, and paper manufacturing.
Reinders et al. (2003)	EU	The differences between countries in the total energy requirement of households are mainly due to the total household expenditure, and the indirect energy requirement is linearly related to total household expenditure in 11 EU member states.

*Source: Zhang, Wang 2017:118*

Households can be seen as the end-users of goods produced and services delivered by economic production sectors. The energy used along entire production-consumption chains is attributed to household expenditure. And the energy requirements of households can be considered either direct or indirect (Wilting et al., 1998).

Based on different studies (Perobelli et al. (2105), Lee and Lee (2014), Streimikiene (2015), Das and Paul (2014), Zhou and Yang (2016), Nansai et al. (2012), Munksgaard et al. (2000), Vringer and Blok (1995), Sanchez-Choliz et al. (2007), Reinders et al. (2003), He and Kua (2013)), direct household energy consists of using electricity, motor fuels, and natural gas. Indirect use consists of buying goods (food products, clothes, etc.) and using services (insurances, public transport, etc.), as illustrated in Figure 1 (Zhang and Wang, 2017).

*Figure 1: Energy requirements of household consumption (based on Liu et al. (2011) and Wilting et al. (1998))*



*Source: Zhang, Wang 2017:118*

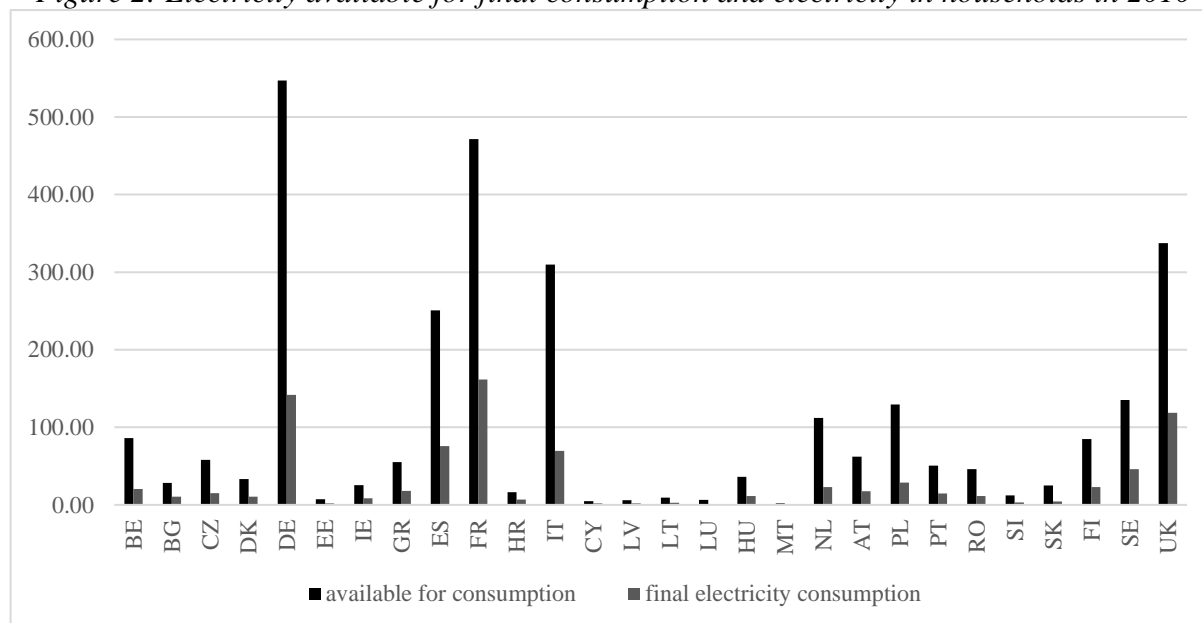
Also, the complexity of household energy consumption can be seen through their contribution to GHG emissions. Household consumption contributes to 72% of GHG emissions (with the remainder coming from public and non- governmental and financial sources) (Dubois, 2019:145).

### 3. METHODOLOGY

As a purpose of the research, the authors analysed secondary data obtained from Eurostat for all 28 Member States and the available period. Authors used secondary data on Eurostat to study energy available for final consumption and final electricity consumption, different fuels' contribution in the households' final energy consumption and GHG emissions per capita in the European Union. Even though each variable's period was different, authors choose the period that is common in all variables, and that is nine years' time period from 2010 until 2018. Descriptive statistics as a method of univariate statistics were used to describe the sample of the conducted analysis. The final energy consumption in the household sector is an annual data on quantities for crude oil, petroleum products, natural gas and manufactures gases, electricity and derived heat, solid fossil fuels, renewables and wastes covering the full spectrum of the energy sector from supply through transformation to final consumption by sector and fuel type (commodity balance) (Eurostat, 2019a). Karakosta (2015) states that households' energy consumption is the main reason for the observed GHG emissions of the sector. As illustrated in Figures 2 and 3, final electricity consumption in the household sector decreases between 2010 and 2018. The most significant decrease can be seen in the countries that have substantial final electricity consumption, such as in the United Kingdom, wherein 2010 final electricity consumption in the household sector was 118 thousand gigawatt-hour, and it decreased to 105 thousand gigawatt-hour in 2018. Besides, Germany has a more significant decrease in final electricity consumption than the UK, and the German household sector managed to reduce final electricity consumption from 141 thousand gigawatt-hour in 2010 to 128 thousand gigawatt-

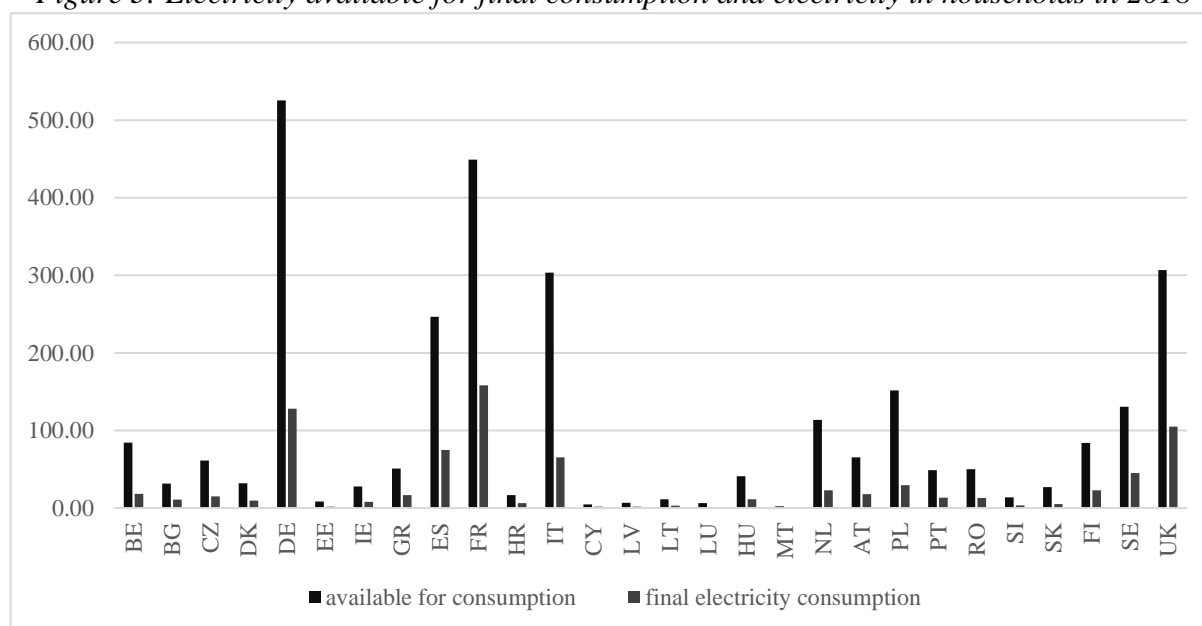
hour in 2018. However, countries like Romania, Slovakia or Bulgaria have slightly increased their final electricity consumption between 2010 and 2018.

*Figure 2: Electricity available for final consumption and electricity in households in 2010*



*Source: Authors according to data available at Eurostat*

*Figure 3: Electricity available for final consumption and electricity in households in 2018*

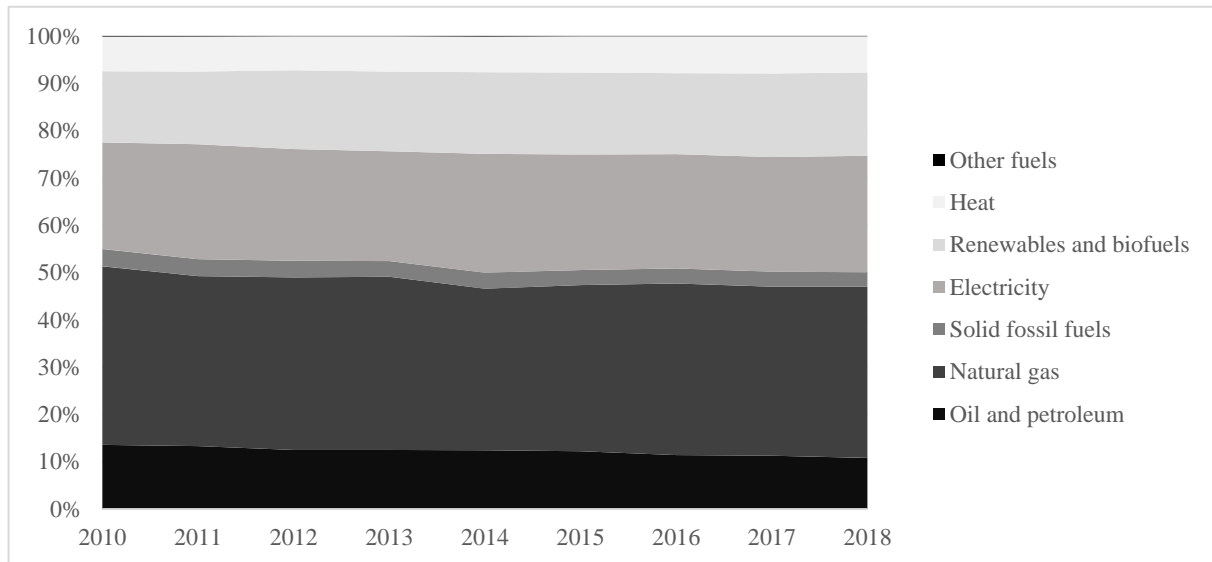


*Source: Authors according to data available at Eurostat*

Final energy consumption in households by fuel is an indicator that presents the share of seven types of fuel over the final residential energy consumption: solid fossil fuels, other fuels, oil and petroleum products, natural gas, electricity, heat and renewables and biofuels. The share of each fuel is expressed in percent of the total consumption. The indicator has been chosen as a proxy for indicators in the vital area 'Improving buildings' of the resource efficiency initiative. This area focuses on the energy spent in households for heating purposes and how the amelioration of buildings can contribute to energy-saving plans.

Eurostat collects data on total energy consumption in households split by fuel category (Eurostat, 2019b). As illustrated in Figure 4, evident is the growing share of electricity, renewables and biofuels and heat in final energy consumption in households by fuel type, while other fuel types are decreasing. Over the nine years, renewables and biofuels have increased by 16%, electricity by 9%, and heat by 4%.

*Figure 4: Final energy consumption in households by fuel type between 2010 and 2018 in the EU-28*

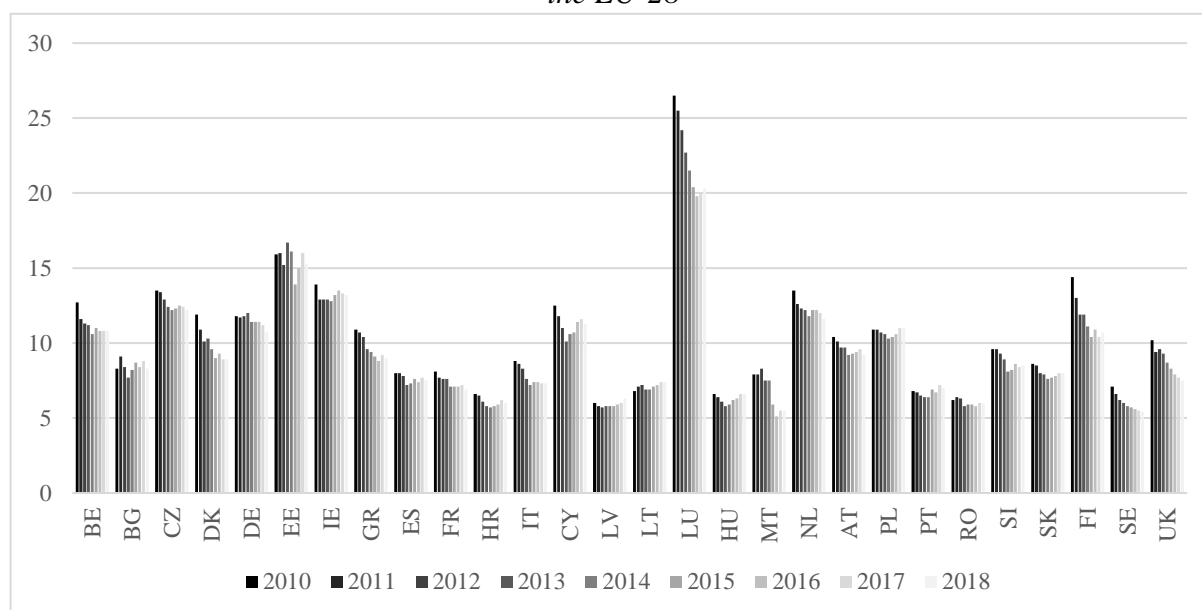


*Source: Authors according to data available at Eurostat*

Greenhouse gas emissions per capita in tonnes of CO<sub>2</sub> equivalent per capita measures total national emissions of the so-called 'Kyoto basket' of greenhouse gases, including carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), and the so-called F-gases (hydrofluorocarbons, perfluorocarbons, nitrogen trifluoride (NF<sub>3</sub>) and sulphur hexafluoride (SF<sub>6</sub>)). Using each gas' individual global warming potential (GWP), they are being integrated into a single indicator expressed in units of CO<sub>2</sub> equivalents. Emissions data are submitted annually by the EU Member States as part of the reporting under the United Nations Framework Convention on Climate Change (UNFCCC). The average population of the reference year (calculated as the arithmetic mean of the population on 1st January of two consecutive years) is used as the denominator (per capita). The indicator does not include emissions and removals related to land use, land-use change, and forestry (LULUCF); it does not cover emissions reported as a memorandum item according to UNFCCC Guidelines, but does include emissions from international aviation as well as indirect CO<sub>2</sub> emissions (Eurostat, 2019c). As illustrated in Figure 5, Member States have different changes in GHG emissions in tonnes of CO<sub>2</sub> equivalent per capita between 2010 and 2018. Many countries recorded a decrease in GHG emissions per capita, while some countries recorded an increase in GHG emissions per capita. The UK, Malta, Sweden, Finland, or Denmark have continuously recorded a decrease in GHG emissions per capita. Some countries recorded an increase in GHG emissions per capita, such as Poland, Latvia, Lithuania, Hungary, or Portugal.

*Figure following on the next page*

*Figure 5: GHG emissions in tonnes of CO<sub>2</sub> equivalent per capita between 2010 and 2018 in the EU-28*



*Source: Authors according to data available at Eurostat*

All the figures mentioned earlier show the direction towards reducing energy consumption and transition to a low-carbon economy. However, the numbers are still high enough, and the Member States have space to improve their households' energy consumption.

#### 4. RESEARCH FINDINGS

To find the relationship between all the observed variables, the authors conducted Spearman's Rank-Order Correlation. The correlation was tested between GHG emissions per capita and final electricity consumption by households', as well as between total electricity available for final consumption and final electricity consumption by households. The correlation between GHG emissions per capita and final electricity consumption by households was not statistically significant, and therefore the results are not shown. Table 2 demonstrates the correlation matrix results between total electricity available for final consumption and final electricity consumption by households, where a statistically significant correlation was found at a 0.01 level. During the observed period, there is a strong and positive correlation between total electricity available for final consumption and final electricity consumption by households. In other words, when countries have more electricity available for consumption, their households will consume more electricity. Besides, less available total electricity for final consumption means that countries will consume less electricity.

*Table following on the next page*

*Table 2: Correlation between final electricity available for consumption and final electricity consumed in the households between 2010 and 2018 in the EU-28*

			Final electricity consumption by households'								
			2010	2011	2012	2013	2014	2015	2016	2017	2018
Total electricity available for final consumption in thousands Gigawatt-hour	2010	R p N	.994** .000 28								
	2011	R p N		.992** .000 28							
	2012	R p N			.992** .000 28						
	2013	R p N				.995** .000 28					
	2014	R p N					.992** .000 28				
	2015	R p N						.994** .000 28			
	2016	R p N							.992** .000 28		
	2017	R p N								.990** .000 28	
	2018	R p N									.994** .000 28

*Source: Authors own calculations*

## 5. CONCLUSION

To implement a low-carbon economy in the EU, it is necessary to study in depth households and their energy consumption because households also emit GHG. Many countries are trying to reduce their household's energy consumption by applying different guidelines and strategies. However, implementing these various policies is not enough because the GHG reduction targets are not met. Households have the potential to achieve significant GHG emission reduction as well as to decrease their energy consumption. However, their ability to meet targets depends on different factors such as household income, location, social situation, knowledge about the low-carbon economy, or their willingness to change their behaviour. Many challenges arise for governments to help their households and familiarize them with their responsibility and ability to mitigate climate change and the duties and roles communicated by climate policies. As a recommendation for future research, it would be beneficial to study the household decision-



making process and their knowledge about the low-carbon economy. Besides, it would be beneficial for governments to study if the households that are familiar with the consequences of GHG emissions and energy consumption on climate change reduce more their energy consumption.

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## REMARKS ON THE EVALUATION OF THE STRATEGIC FOCUS OF THE SOCIAL NETWORK

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### ABSTRACT

*As a result of the explosive growth of scientific knowledge and the rapid development of ICT, the world economy is undergoing far-reaching global changes, which have been most significant since the Industrial Revolution. The current trend in the online environment is dominated by social networks, which are part of modern social media. However, developments in the social networking market raise questions about their possible future direction, their strategies in the context of their perception by different user groups in different regions, as well as questions about the use of different methods in formulating potential strategies. The aim of the paper is to point out the possibilities of using SWOT analysis and expert evaluation to determine or update the strategy of a company operating in the social network market in the context of regional perception of the company's position. The subject of the investigation was Facebook. The determination of individual elements of the company's SWOT analysis was based on literature review by expert, the Delphi method and a panel of experts, which was composed of experienced users of social networks in Slovakia. The analysis shows that the strengths for the social network Facebook are most perceived in Slovakia: market leadership on a global scale, efforts to expand revenues and the developing role of a news source. One of the most important opportunities is clearly the offers to create strategic alliances. In terms of weaknesses and threats, difficulties in maintaining a competitive advantage, problems in maintaining revenue growth rates and the decisive dependence of revenue on marketing communications, as well as cyber-attacks and security risks, are perceived.*

**Keywords:** *Social network, Strategy, SWOT analysis*

### 1. INTRODUCTION

As a result of the explosive growth of scientific knowledge and the rapid development of ICT, the world economy is undergoing far-reaching global changes, which have been most significant since the Industrial Revolution. New perspectives are opening up, a new economy that has huge potential for economic growth, increasing labour productivity and employment. In the digital economy, the growing power of information is radically changing both the way people communicate and trade and entrepreneurship. Here, quality and fast customer information gained a decisive role in the production factors, speed is paramount. The online environment of the Internet is a dimension of progress that constantly shifts the possibilities of marketers and offers new creative and effective opportunities for promotion. The current trend in the online environment is dominated by social networks, which are part of modern social media (Rovnanova, 2018). Janouch, V. (2010) describes social media as online media, "where content is created and shared by users."

Social media is constantly changing as its content changes and also by adding many features. Social media is a place with collective knowledge, where the opinion of a certain product is mostly true. According to Qualman, E. (2009), social media has become a common part of integrated marketing communication today: there is no need to ask whether to work with social media. The right question is how well we can do with them. According to Příkrylová, J. and Jahodová, H. (2010), the news is spread in social networks on the principle of monitoring the activities and opinions of people who are interested in individual users and whom they have included as friends. These friends are watching each other who is interested in what they are doing, or what they are going to do, and so on. Social networks work on the principle of registering and creating your own profile. He can then view either an unlimited number of other registered users, or only users whose profile author marks as friends (Vaynerchuk, G. 2016). For most people, social media is about conversations, specifically in 2007-2014, social media was largely about public sharing of lives with the world. This behaviour still exists, although we are increasingly selecting what we share and to whom. Social media is gradually returning to what "social" has always meant for people: connecting on a personal basis with the people we care about the most. Many of them work for organizations that we care so much about that the social role in marketing will certainly not disappear. Indeed, the social role can now develop into a value-added experience, providing direct contact between two people is what they have always promised (Special reports. Digital in 2016, Digital Marketing 2016). However, developments in the social media market evoke questions about their possible further direction, about their strategies in the context of their perception by different user groups, as well as questions about the use of different methods in formulating potential strategies.

## 2. GOAL AND METHODOLOGY

The aim of the paper is to point out the possibilities of using SWOT analysis and expert evaluation to determine or update the strategy of a company operating in the social network market in the context of regional perception of the company's position. The primary sources of information were professional and scientific publications in the field of digital environment and social networks and their evaluation by a panel of experts. The panel of experts was created from experienced users of social networks. As part of the application of the Delphi method, individual elements of the SWOT analysis decisive for the evaluation from the point of view of Slovakia were formulated. Subsequently, individual strengths and weaknesses, opportunities and threats were assessed by experts within the Likert scale. The evaluation was standardly based on the determination of the arithmetic mean of the evaluations and the standard deviation. This was followed by a pairwise comparison and determination of the order of significance of individual elements of the SWOT analysis. The social network Facebook was chosen as the object of research. Facebook is the market leader in social networking. The mission is already clearly defined on the login page "Give people the power to build a community and bring the world closer together". Facebook creates online links and sharing networks ([www.facebook.com](http://www.facebook.com), Jamie Spencer, 2019). A year after its establishment, Facebook started buying larger or smaller companies and start-ups, which indicates the direction of its further development. Facebook's business strategy integrates four principles:

- Extensive and continuous focus on the user experience. Facebook did not have the primary advantage of online social networking, as it was launched after Friendster and MySpace. However, an uncompromising approach to the user experience and an appropriate balance between standardizing and customizing websites over the years have ensured that Facebook has become one of the most popular social networks;
- Growth through acquisitions. Facebook's business strategy focuses on building positions in various e-commerce industries by acquiring relevant businesses;

- New product development. The development of new products and services is at the heart of Facebook's business strategy, with positive consequences for the number of users. The ability to develop new products and services according to its mission "to give people the strength to share and make the world more open and connected" is one of Facebook's key competitive advantages;
- Constantly exploring new ways of monetizing. Facebook is constantly experimenting with different strategies to identify and use intelligence monetization methods (Facebook history, 2020, Nations, D. 2019, Clement, J. 2020).

### 3. RESULTS

Facebook's SWOT analysis was based on a study of information sources and experts identified key strengths, weaknesses, opportunities and threats (Barta, L. 2017, Clement, J. 2020, Eddin A.T. et al. 2015, Kasi, A. K. 2012, Pratap, A. 2018, Hitesh Bhasin 2019, Spencer, J. 2019, Leo Sun 2018, Madlenak, R., Madlenakova, L., 2015, Rovnanova, A. 2018, Nations, D. 2019, Young, J. 2018).

#### Strengths:

- Facebook is the undisputed global market leader in the online social networking segment in terms of the number of active users per day worldwide. The company's current market leadership is a considerable force in several respects (S1);
- Mark Zuckerberg is a proven and effective business leader who effectively applies a visionary leadership style. Mark Zuckerberg was able to exercise extraordinary determination in many cases and suppressed pessimistic views on Facebook. For example, the purchase of Instagram for a massive 1 billion The USD, which it initiated in 2012, was seen by many analysts and investors as unduly risky at the time. In less than four years, however, Instagram found \$ 35 billion and Facebook's share nearly tripled, proving the company's business sense and decisive leadership. This is one of the main strengths associated with Facebook (S2);
- Effective capitalization in mobile advertising, taking into account the growing shift from personal computers and laptops to mobile devices, is a force that is a long-term advantage for Facebook. In addition, the company has launched video as another popular medium for users to express themselves on social networks (S3);
- Facebook is becoming a source of news for an increasing number of users on a global scale. The growth in the use of Facebook as the main source of news among the population has a huge positive impact on long-term growth prospects (S4);
- The effort to expand sources of income is the most important and most strategic site for Facebook at this stage of development. It is important for Facebook to ensure that its current competitive advantages extend to new services and products that the company introduces as additional sources of revenue (Barta, L. 2017, Young, J. 2018) (S5).

#### Weaknesses:

- Advertising plays a crucial source of income for Facebook. Extensive dependence on advertising causes the company to be exposed to changes in advertising practices and trends, reducing the marketing budget of companies and others. The absence of one's own products, physical or digital as a source of income, is one of Facebook's main weaknesses (W1);
- The difficulty in maintaining the rate of income growth is also a weakness. Despite the growing number of users, unless Facebook distributes its revenue, it is expected that revenue growth will continue to decline in the future (W2);
- In addition, many Facebook technologies and systems are tailor-made. The loss of key personnel, including members of management, as well as key engineering, product

development, marketing and sales personnel, could disrupt their operations and adversely affect the business (W3);

- Facebook's competitive advantage is associated with the regular inclusion of new services in the portfolio while respecting the user experience. However, this competitive advantage is limited in time, so the company may lose market share in competition with innovative social services and features (W4);
- Facebook may not be able to integrate the new stores it acquires into its existing stores. The integration of acquisitions requires considerable time and resources. The company makes significant investments to support acquisitions, which can divert management resources and attention from other areas of its business (Hitesh Bhasin, 2019, Cayenne Apps SWOT Application 2019) (W5).

#### Opportunities:

- Making greater investments in data protection and user privacy is a critical opportunity. External consumer data breaches and cyber-attacks are generally the most serious threats to Facebook and other e-commerce businesses. Facebook must address this issue in a proactive rather than reactive way by increasing the level of investment to address this aspect of the business and attracting highly qualified and experienced online security professionals (O1);
- Facebook has the opportunity to explore how to enter Asian markets, especially the Chinese market, and to look for ways to enter this market even in times of tense US-China relations (O2);
- Creating strategic alliances is an attractive opportunity. However, strategic collaboration with other companies needs to be based on the same values and focus on customers in order to increase brand awareness with positive implications for its long-term growth prospects (Leo Sun 2018, Pratap, A. 2018) (O3).

#### Threats:

- The e-commerce industry is vulnerable to cyber-attacks, with third parties seeking unauthorized access to Facebook or user data. Any prevention or mitigation of security breaches and improper access to or disclosure of data or user data could result in the loss or misuse of such data, which could damage Facebook's business and reputation and reduce its competitive position. In addition, computer malware, viruses, and "hacking" and "phishing" attacks from third parties are becoming predominantly in the e-commerce industry, have occurred on Facebook in the past, and may also occur in the future (T1);
- The growing popularity and sophistication of ad blocking is another major threat to Facebook. As mentioned above, ads make up the majority of a company's revenue (T2);
- There is a legitimate threat that Facebook will be banned in other countries, in particular because of fears that it will be used against the government (Eddin A.T., Mouad G., Tahiri N., Bahhaj I. 2015, Kasi, A.K. 2012) (T3).

Selected strengths and weaknesses, opportunities and threats were subsequently evaluated by experienced users of social networks - experts. The evaluations obtained from the experts were then subjected to a summary evaluation process, according to the individual steps - determination of the arithmetic mean and standard deviation of the individual weights (Table 1).

*Table following on the next page*

*Table 1: Evaluation of strenghts, weaknesses, opportunities and treats by experts*

		Evaluation by experts	
		Arithmetic mean	Standard deviation
<b>Strenghts</b>			
<b>S1</b>	Global market leadership	4,83	0,37
<b>S2</b>	Effective leadership of Mark Zuckerberg	2,83	2,34
<b>S3</b>	Effective capitalization in mobile advertising	2,83	0,90
<b>S4</b>	The evolving role of the main source of information	3,00	0,58
<b>S5</b>	Expanding sources of income	4,00	0,58
<b>Weaknesses</b>			
<b>W1</b>	Dependence of Facebook revenues on advertising	3,17	1,21
<b>W2</b>	Problems with maintaining the rate of sales growth	3,17	1,07
<b>W3</b>	Dependence of the company on several key employees	3,00	1,00
<b>W4</b>	Difficulties in maintaining a competitive advantage	4,50	0,76
<b>W5</b>	Insufficient ability of Facebook to successfully integrate the new stores it acquires	3,00	0,58
<b>Opportunities</b>			
<b>O1</b>	External offers to invest in data protection and user privacy	4,67	0,75
<b>O2</b>	Decision on the possibility of entering new Asian markets in the context of tensions between the US and China	3,67	0,47
<b>O3</b>	Offers for creating strategic alliances	4,83	0,37
<b>Threats</b>			
<b>T1</b>	Cyber-attacks, phishing and online security threats	4,33	0,47
<b>T2</b>	Increased popularity and sophistication of ad unit extensions (ad blocking by users)	2,83	0,69
<b>T3</b>	The threat of a ban on Facebook in developing countries	2,50	0,76
<b>T4</b>	Competition and rivalry	3,33	0,94

The next step was to create an aspect evaluation matrix according to the pairwise comparison method. In this method, weights are assigned to individual aspects based on a comparison of the arithmetic mean. If the values of the arithmetic mean agree, the evaluation is determined on the basis of the standard deviation. In decision-making based on standard deviation, the aspect that has a smaller standard deviation is more important, as a smaller value determines the better significance of the arithmetic mean. If an aspect in a row was more important than an aspect in a column, we assigned it an indication of the aspect that was in the row. If an aspect in a row was less important than an aspect in a column, we assigned it an indication of the aspect that was in the column (Fig.1).

*Figure 1: Facebook's strenghts, weaknesses, opportunities and threats matrix*

Strength rating matrix						Weaknesses rating matrix					
	S1	S2	S3	S4	S5		W1	W2	W3	W4	W5
<b>S1</b>	x	S1	S1	S1	S1	<b>W1</b>	x	W2	W1	W4	W1
<b>S2</b>	S1	x	S3	S4	S5	<b>W2</b>	W2	x	W2	W4	W2
<b>S3</b>	S1	S3	x	S4	S5	<b>W3</b>	W1	W2	x	W4	W5
<b>S4</b>	S1	S4	S4	x	S5	<b>W4</b>	W4	W4	W4	x	W4
<b>S5</b>	S1	S5	S5	S5	x	<b>W5</b>	W1	W2	W5	W4	x
Opportunities rating matrix						Threats rating matrix					
	O1	O2	O3				T1	T2	T3	T4	
<b>O1</b>	x	O1	O3	<b>T1</b>			x	T1	T1	T1	
<b>O2</b>	O1	x	O3	<b>T2</b>			T1	x	T2	T4	
<b>O3</b>	O3	O3	x	<b>T3</b>			T1	T2	x	T4	
				<b>T4</b>			T1	T4	T4	x	

Source: Own processing

This was followed by an evaluation of the aspects in the created matrix. The aspect with the highest number of occurrences in the matrix can be considered as the most important of the compared aspects (Fig. 2).

*Figure 2: The most significant strengths, weaknesses, opportunities and threats of Facebook*

<b>Strengths</b>	Occurrence in the matrix	Rating	<b>Weaknesses</b>	Occurrence in the matrix	Rating
S1	4	1	W4	4	1
S5	3	2	W2	3	2
S4	2	3	W1	2	3
S3	1	4	W5	1	4
S2	0	5	W3	0	5

<b>Opportunities</b>	Occurrence in the matrix	Rating	<b>Treats</b>	Occurrence in the matrix	Rating
O3	2	1	T1	3	1
O1	1	2	T4	2	2
O2	0	3	T2	1	3
			T3	0	4

The analysis shows that the most perceived strengths for the social network Facebook are:

- Global market leadership;
- Efforts to increase income;
- The evolving role of the intelligence source.

One of the most important opportunities is clearly the offers to create strategic alliances. In terms of weaknesses and threats, Facebook should focus on the difficulty of maintaining a competitive advantage, the problem of maintaining revenue growth, and addressing the critical reliance of revenue on marketing communications. Threats to Facebook are mainly cyber-attacks and competition. Based on the outputs of the SWOT analysis, where weaknesses were subtracted from strengths (105-101) and threats from opportunities (79-78), an offensive strategy can be applied in Facebook, as strengths outweigh weaknesses and opportunities threats. The social network should thus focus mainly on its strengths and opportunities in order to maintain its position in the digital market.

#### 4. DISCUSSION AND CONCLUSION

Despite the fact that the application of the method of professionally substantiated compilation of the marketing strategy of the social network pointed to the need to focus strongly on strengths and opportunities, other aspects also become an offer for discussion, mainly from the threat quadrant. Facebook, as a phenomenon of the time, is, like users of other social networks, often exposed to security risks. This is mainly due to the fact that the profile of users on social networks often contains sensitive personal data. Experts, especially security analysts, point out that as users become more open, they share more of their privacy. It gives individuals, with not the best of intentions, the right information they need about their potential victim. Cybercrime has become a dangerous phenomenon today. These threats generally do not only affect Facebook and social networks as such. The mass use of Internet and mobile means of communication has meant that information on bank accounts and credit cards has now become the most common commodity sold on the black market, according to experts. The stimulus for the discussion is the ability of the social network to use quality tools that protect the user of the social network. However, the problem remains that "general security" on the Internet, which is relatively low. At present, these threats are becoming stronger as they are more sophisticated, sophisticated and consistently segmented to target a specific target group. In general, there are more and more discussed topics focused on social engineering. Social engineering is a non-technical form of breaking security procedures and measures, as it is an attack based on the ability to influence and manipulate people. Social engineering benefits from the potential failure of the human factor, which is an integral part of information security and the main goal of the attacker is to disrupt the internal environment of the organization, individual or obtain sensitive and confidential information using various psychological games, manipulation or even threats.



The motivation of a social engineer to carry out an attack by social engineering can be different and the subject of motivation can be, for example, financial gain, personal interests or intentional damage. Because the social engineer takes advantage of the individual's natural tendency to believe, to be accommodating and altruistic, such an attack can also be carried out by an attacker who does not have in-depth technical knowledge. Facebook is losing popularity under the influence of security scandals. It is therefore clear that further research in this area should focus not on appeals not to use the social network, but on targeted marketing communication towards greater awareness and encouragement of the attention of social network users. Public relations should play an important role, as this marketing communication tool should improve the image of this social network, which has been significantly negatively affected by, for example, the affair where Facebook archived all information about its users, including statuses, conversations, photos and videos. Even those deleted by the users themselves. The published information was then to be used to support advertising campaigns. The social network itself allowed users to download a file with their data. Discussion and the search for solutions in this area is a long-term matter, because despite the fact that there are currently many high-quality tools on the market to protect and ensure security on social networks, technologies are always evolving faster than their protection can be addressed.

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## THE CONSTITUTIONAL TAX PRINCIPLE OF GENERALITY IN SPANISH LEGISLATION - A COMPARATIVE LAW'S CASE

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### **ABSTRACT**

*The paper's primary goal is to analyse how Constitutional Law and Corporate Income Tax (CIT) Law addresses the Tax Justice principles, notably, Generality's principle. The research studies the differences and similarities in European and Asia tax jurisdictions. It analyses several data sources from Spain, Portugal and India, between them Constitutions Laws, CIT Laws, General Tax Laws and some Constitutional courts cases. The results show that Constitutional Laws do not refer to the Generality principle, expressly. European countries have more similarities, as opposed to the Asian country. Spain and Portugal develop more tax issues in constitutional scope. This difference may be a consequence of the age of the Indian Constitution, which makes only a small reference to the Legal Tax System. The CIT laws incorporate principle implicitly in it, it predicts everyone taxpayers must pay income tax, for all the income. Tax Income exemptions have to be justified.*

**Keywords:** *Tax justice, Generality principle, Constitutional Law, Corporate Income Tax Law, Spain, Portugal, India*

### **1. INTRODUCTION**

Generality principle requires two conditions. First, to submit to taxation all persons, the legal and individual persons. Since they have the ability to pay and they are typified at the birth of the tax liability and without to have in consideration extra-economic criteria, such as nationality (legal), marital status, social class or religion. Second, in particular tax, no allowed other exceptions to the subjective and objective tax liability beyond those that seem reasonable for reasons of economic, social, cultural and health policy or technical-tax imperatives (Neumark 1994). Tax generality principle represents that all the citizens will contribute to public expenses' sustainment. It does not mean that all must effectively to pay taxes but must to pay taxes all that in light of constitutional principles and standards that develop them, have the necessary ability to pay according to chargeable event typified in the law (Hoz 1982). This constitutional principle prohibits the existence of tax privileges. By this norm, the constitutional legislator imposes that the exercise of the taxing power does not suppose a differentiated treatment between taxpayers if there is no adequate justification in the legal system (Amor and Masbernát 2013). This principle has a subjective and an objective aspect; subjectively means that everyone must contribute according to their ability; objectively, suppose the subjection of all acts, facts or business that indicate this ability (Hoz 1982). Achieving the full realization of both aspects, the author considers, is a legal, technical problem (González 1997). The breach of this principle may occur through various technical and legal mechanisms, specifically through objective and subjective exemptions. The objective exemptions exclude of the tax liability certain facts, the subjective exemption exempts certain persons from the tax liability, even though they are affected by the chargeable event (Rodrigues 1995; Hoz 1982). In this regard, the Spanish Constitutional Court has, on many occasions, recognized that taxes have two functions. First, to being a means of raising public revenues; and they are an instrument of general economic policy and to ensure a better distribution of national income (STC 46/2000 ; STC 289/2000 ; STC 276/2000 ; STC 3/2003). The same court recognizes the generality principle as a principle of the tax system, that does not mean that each tax figure has to affect all the citizens.

Such generality is compatible with the regulation of a sector or groups of people in the same situation (STS 10524/1986). The expression "everyone" absorbs the duty of any person individual or legal, national or foreign, resident or non-resident who, through their economic relations with or on our territory (principle of territoriality) externalizes manifestations of ability to pay. In principle, it also makes them holders of the obligation to contribute under the tax system. It means, in the end, the equality of all faced with a constitutional requirement of must contributes in support of public expenditure, the legislator is forced to seek wealth wherever there is<sup>1</sup>. It also means, the prohibition of the granting of discriminatory tax privileges, that is the same to say constitutionally unjustified tax benefits. It constitutes a failure of the general duty to contribute to the maintenance of state expenditure<sup>2</sup>. The generality principle's violation can occur under two circumstances. First, when the choice of the taxpayer does not observe the ability to pay principle. Second, when the Tax Authority does not apply in a general way, or equal form, tax rules relating (to) taxpayers (Garcia 2005). In the same sense<sup>3</sup> Refers to the prohibition of granting discriminatory tax privileges, it means, unjustified tax benefits from a constitutional point of view, by constituting a breach of the general duty to contribute to the sustaining of public spending. The mechanism, which more clearly reveals the principle's nonconformity, is the existence of tax privileges, which generally presents in the form of tax exemption or tax relief. The tax privilege and the generality principle's violation occur when the application implies requirements of difficult compliance for the taxpayer generally. In that case occurs an unconstitutional breach of the principle of generality because the State can not advantage any taxpayer or citizen without reason (Garcia 2005).

## 2. SPANISH JURISDICTION

According to the judgement of the Spanish constitutional court (STC 173/1996) tax justice is not a constitutional principle, from which rights and obligations derive to citizens, but it is a purpose of the tributary system. This verdict only is respected when all constitutional principle will be respected, between them the principles of generality, legality, equality, ability to pay, progressivity and non-confiscation. This contribution happens through a fair tax system inspired by the principles of equality and progressively. The Spanish Constitution (CE 1978) also determines that the personal and patrimonial instalments only can be established under the law. In this way, the principle of generality, ability to pay, tax equality, progressively and non-confiscation rise to the constitutional level (Hoz 1982). Those principles show essentials in the establishment and configuration of tax regulations, as well as the standards' applications (Cascán 2000). Thus, article 31.1 presents the material principles of the Spanish tax system, that when incorporated in the constitutional rule assumes constitutional relevance. Those principles, together with the legality's principle, in the determination's moment of patrimonial instalments, they form the framework in which tax power can be exercised. In which allows to reach the maximum value in tax dimensions: the principle of tax justice in taxation (Amor and Masbernat 2013). To Garcia (2005) the article 31.1 of the Spanish Constitution orders the principles of an incoherent form. The author considers that first, it has to figure the principle of social justice, bearing in mind that article 1 of the Constitution advocates our state as a Social and Democratic State of Law. Also defends that the social justice imposes an equal treatment, equality principle and progressively principle. To a fair system, it means, egalitarian, and It is necessary an adequate criterion to measure equality. Moreover, the appropriated measure is the principle of ability to pay. According to the current disposition of the article 31.1 of the Constitution, the ability to pay principle is not the criterion, and it cannot be considered the first

<sup>1</sup> Case 27/1981, Constitutional Court of Spain, July 20, 1981. Case 150/1990, Constitutional Court of Spain, October 4, 1990, Ecli: Es: Tc: 1990: 1. Case 221/1992, Constitutional Court of Spain, December 11, 1992, Boe-T-1993-12. Case 233/1999, Constitutional Court of Spain, December 16, 1999, Ecli: En: Tc: 1999: 2.

<sup>2</sup> Case 96/2002, Constitutional Court of Spain, April 25, 2002, Boe-T-2002-9783.

<sup>3</sup> Case 96/2002, Constitutional Court of Spain, April 25, 2002, Boe-T-2002-9783.

in the system ordination. Constitutional disposition put in the base of Spanish Tax Ordering two principles: the legality and ability to pay principle. The author reinforces that the doctrinal analysis of both principles has focused on the application's moment of the tax (Lapatza 1992). The first court sentence (STC 27/1981), refers that a fair system can not separate from the progressivity and equality principle. That is because the equality claimed here is closely linked to the concept of ability to pay and the principle of progressivity. That is because the equality claimed here is closely linked to the concept of economic capacity and the principle of progressivity. Unlike other Constitutions, the Spanish one expressly alludes to the principle of ability to pay and, moreover, does so without exhausting it. Still, the same Court defends the constitutional principles serve to promote the superior values of the legal system that advocates the Social and Democratic State of Law (STC 16/1982). So, the principle of generality is not, expressly, referred in the article 31.1 of the Spanish Constitution, although the constitutional rule starts the text determining that "everyone"<sup>4</sup> will contribute to the maintenance of public expenses. Amor and Masbernat (2013) consider that with this expression, the constitutional legislator imposes that the exercise of the taxing power does not suppose a differentiated treatment between taxpayers if there is no adequate justification in the tax system<sup>5</sup>. The current constitutional writing is improved because it changes the word the Spanish people - "los españoles", for the word everyone - "Todos". According to the same author, this expression refers better the generality, clarifies the principle's application ambit according to the new criterion of residence as tax liabilities delimitator and refers to the Spanish residents (Hoz 1982). Relatively to the Corporate Income Tax Law - Impuesto sobre Sociedades (LIS) - article 1 determines the ambit and nature of the tax. It establishes that the LIS tax corporations and other legal persons. It represents to say that LIS tax all corporations and all other legal persons. In this way, all legal persons are called upon to contribute to the financing of public spending. The generality's tax principle must typify as chargeable even all the act of juridical business that demonstrates the ability to pay. Thus, paragraph 1 of article 4 of the LIS sets up that will be considered a chargeable event the obtaining income by the taxpayer, whatever its source or origin. With this embracing disposition, the disposition subjects to taxation all the incomes, not being relevant to the source or nature of the income. It does not leave out of taxation any income that reveals the ability to pay tax. In the same sense, article 7.2 of the LIS determines the taxpayers will be taxed for all their incomes, not being relevant to the place of obtaining or the taxpayer residence. Thus, it will be taxed national or foreign companies, residents or not, that for economic transactions with Spain to show the ability to pay tax. Article 2 of LIS explains that the tax's application happens in all Spanish territory; it means, the norm is referring to the principle of territoriality. This principle requires that everyone must effectively pay taxes when they have the necessary economic capacity. Also, it manifests when it occurs the chargeable event of the tax. In general, exemptions and bonuses, which may result in discrimination, are prohibited. However, under Article 2.1 of the LGT, allows subjective and objective exemptions or bonuses of tax liability, if due to economic, social, cultural or other policy reasons. The Corporate Income Tax is no exception. Under the subjective ambit, article 9 of the LIS, identifies taxpayers that can benefit from the exemptions in that tax. Article 33, 34 and 121 of the same legal disposition, on the objective scope, it identifies incomes that benefits of tax bonuses or exemptions.

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<sup>4</sup> Our translation.

<sup>5</sup> The article 3 of the General Tax Law – Ley General tributaria (LGT) provides the ability to pay bases tax system to pay the persons obliged to pay taxes and on the principles of justice, generality, equality, progressivity, equitable distribution of the tax burden and not confiscatoriness.

### 3. PORTUGUESE TAX SYSTEM

Portuguese Constitution - Constituição da República Portuguesa (CRP) regulates taxation issues in the articles 103 and 104. The first regulates Portuguese Tax System goals'. Expressly, it states that the tax system aims to meet the financial needs of the State and other public entities and to distribute income and wealth justly. With this provision, the constitutional legislator has elected justice as its fundamental objective (Sanches 2010). Doctrine considers it regulates how the tax system should be structured, not so much as to achieve simple tax justice, understood as mere justice in the sharing of public expenditure burdens, but rather to contribute to the justice of the entire social order (Basto 2006). The article 104 establish particular constitutional rules to the taxation of the individual, corporate, property and consumption. Regarding the income of companies, this disposition determines that taxation must incide over the real income. So, it constitutionalizes the ability to pay of the companies (Nabais 2014). Portugal taxes corporate income through the Portuguese Corporate Income Tax Law - Imposto sobre o Rendimento das Pessoas Colectivas (IRC). Since 1989, This country has different laws to tax individual and corporate incomes. The Portuguese legislator in article 1 of the CIRC establishes that tax the obtained incomes, even though illicit ones. The article 4.1 adds that the tax burden all the incomes, including those obtained outside Portugal, to domestic taxpayers. The foreign companies' income the taxation incide under the income obtained in Portuguese territory. This tax rule determines the objective scope of the law. In the subjective scope, article 2 established that all the taxpayer must contribute to the public expenses sustainability under its ability to pay. Also, it determines entities that have to pay Portuguese Corporate Income Tax. They are domestic IRC's Taxpayers, since have registered office or effective management in Portuguese territory: i) Commercial or civil companies in commercial form, cooperatives, public companies and other legal persons governed by public or private law; ii) entities without legal personality. They are also taxpayers: entities, with or without legal personality, which have neither headquarters nor effective management in Portuguese territory and whose income obtained therein are not subject to individual income tax.

### 4. INDIA

The Constitution of India (CI) is the oldest constitutional law between the three laws studied. The Constituent Assembly of India introduced it on 26 November 1949. Tax system's issues are not much developed in this supreme law. The Part XII - Finance, Property, Contracts and Suits, Chapter I, predicts a brief note about taxes' imposition. It determines that "Taxes not to be imposed save by authority of law". Besides, the article 265 of the CI explains that "no tax shall be levied or collected except by authority of law". This supreme law maintains a conservative position when do not refer anything about how taxes of individuals, companies, property, or consumption. It means that it gives freedom to the legislator to determines the taxation rules in different domains. It is not the case in other more recent constitutional laws, such as the CRP of Portugal. Therefore, this legal disposition has to underlie the material principle of the legality; it does not refer to any other principle of tax justice, namely the principle of generality. This document age may justify this option. The Income Tax Act (ITA) of 1961 regulates the Income taxation of India. This law establishes legal rules not only about Indian Companies' income taxation but also, it determines the imposition of the individual income. Section 4 of this law states that "total income", as provided for in this law, will be charged every person. The section 5 of the Income-tax Act, 1961 establishes the scope of the total income, in its paragraph 1, explains "the total income of any previous year of a person who is a resident includes all income from whatever source". Also explains in the paragraph 2 of the same disposition "person who is a non-resident includes all income from whatever source derived which (a) is received or is deemed to be received in India in such year by or on behalf of such person; or (b) accrues or arises or is deemed to accrue or arise to him in India during

such year". It means that all incomes' resident companies are subject to income taxation in India, whatever the source and the territory obtained. In non-resident companies, the taxation incide over the income obtained in Indian territory. Additionally, the paragraph 31 of the same Act clarifies the definition of "person", determining that it includes: (i) an individual, (ii) a Hindu undivided family, (iii) a company, (iv) a firm, (v) an association of persons or a body of individuals, whether incorporated or not, (vi) a local authority, and (vii) every artificial juridical person, not falling within any of the preceding sub-clauses. This legal definition established the subjective ambit of the Indian income tax law.

## 5. CONCLUSION

This paper expects to understand how Supreme Law approaches the Tax Justice principle of the generality in the case of Spain, Portugal and India. Also, it addresses how the corporate income tax law of the same jurisdictions merges it and, to analyse what are the differences and similarities when we compare the three cases. The results show that the Constitutional Laws reserve a section to regulate tax issues, which, depending on the jurisdiction, it presents major or minor development. Thus, between the legal systems analysed, Indian is the less than develop the theme. Spain's one, in article 31, explains the Tax System. The Indian one, through article 265, obliges the law authority for taxation imposition. Portugal shows more development because it explains not only the tax system but also it gives instructions about how must occur taxation of the income (individuals and companies), the property and the consumption (Table 4), it makes this in the articles 103 and 104. The constitutional dispositions do not refer expressly about the generality's tax principle, in opposition to the legality principle. Three legal systems invoke it, expressly. It imposes the taxation to the law prevision. The analysis of the Spanish determination allows concluding that the legality and the ability to pay are the principles that support the base of the Spanish Tax System (Amor and Masbernat 2013). The research led to the understanding that in Portuguese Jurisdiction happen the same, to the extent that the CRP invokes that the taxation must meet to the individuals and legal persons' incomes. The principle studied has an implicit constitutional presence in the case of Spain and Portugal. Article 1 of the LIS establishes that this tax taxes the income of the companies and the other legal entities. The same article of the IRC determines that the taxation incide over the tax's taxpayers and it makes to explain who those taxpayers are. Section 4 of the Indian ITA, determines that this Act respect of every person. In the Indian case, the explicitly invokes the generality's principle because it determines that everyone is a tax when obtained incomes predicted in this law. In European jurisdictions, this reference is implicit due to laws predict the taxation of companies and public entities. This provision means all entities, private and public ones', must contribute to financing the public expenditure. The CIT Laws from the countries of Europe and Asia studied, determines that those taxes burden all the income, whatever the income's source, nature or place in case of resident taxpayers. The foreign taxpayers are subject to taxation of that jurisdiction under the income obtained in the respective territory. Despite the age of the income tax law in India and, the fact that the same law (ITA) taxes Indian individual and corporate's income, this law does not differ significantly between European provisions. Moreover, at the constitutional level, European countries have more similarities to the detriment of the Asian country, Spain and Portugal develop more tax issues in constitutional scope. This difference may be a consequence of the age of the Indian Constitution, which makes only a small reference to the Legal Tax System. No country makes explicit reference to the principle of generality in constitutional law. The exemptions and bonuses predicted in the CIT laws, although they can assume themselves as a general economic policy instrument, they should not be part of the corporate taxation law. That law provides, between others, exemptions, bonuses, deductions, from which constitutionality is defended by responding to general interest ends.

However, the general interest ends is an indeterminate concept, from which it is complicated to distinguish boundary of the between constitutionality and unconstitutionality. The existence of these specificities in the LIS enables the complexity of the tax system, which tends to create in its application and higher costs in the taxpayer's treatment of tax information, contributing to tax evasion and removing investment, thereby reducing legal certainty. This paper contributes to a better understanding of tax justice questions. Namely, it compares the tax system of two different geographical areas, the European and the Asian ones, in the constitutional and corporate income taxation domain. It analyses how taxation law reflects the principles of tax justice. Although, the study's analyses only three Tax System, Spain, Portugal and India. It could present additional value to the research analysis of other Jurisdictions that currently present a relevant economic rise, as is the case of China. Thus, it could be attractive to analyses the Tax System of China, to make a comparison of its legal dispositions with taxation law of jurisdictions researched in this paper and to understand if there are tax factors that help this State to be an emerging economy.

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# MODIFICATION OF DEGRADED NATURAL HABITAT OF THE STRAŽUN FOREST INTO A PARK, INTERESTING FOR TOURISTS

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## ABSTRACT

*We live in a time of climate change and all consequences that come beside. Most of the time, not a natural phenomenon but a human error is the issue. This article deals with a degraded area, which a municipal ordinance proclaimed a natural monument in 1992. In 2004, the Stražun Forest in Maribor was identified as a natural value of local importance and enhanced with information boards and signs. The research was carried out in the Stražun Forest area in early 2020. Conditions and critical points of degradation of this habitat were studied. It was established that the forest serves primarily as a place of relaxation and recreation for local residents. It also provides education for children, thermal water for two public thermal baths in Maribor, and several health energy points. Noise level measurement was carried out in the area of the thermal water pumping station, and samples of the Stražun brook water were analysed at National Laboratory for Health, Environment and Food in Maribor. During the research, illegal waste disposal sites were found, including hazardous substances, and there were some unfavourable interventions into the environment that can cause landslides. In the article proposals for remediation of the area are put forward, which, if properly considered and implemented, could serve also for tourist purposes.*

**Keywords:** *Degraded habitat, Environmental remediation, Noise analysis, Water analysis*

## 1. INTRODUCTION

The biodiversity of the forest offers shelter, relaxation, health ... to people and animals. It is a system of self-sufficiency, a living space where one can feel the fullness of life. Birds' singing is soothing and inspires melancholy. In the time of the coronavirus boom, the forest is our only provider of solace, friendship, and our own companionship. However, a human friendly forest is tidy, untouched. Various natural catastrophes, such as ice storms, windbreaks, ruin its natural regeneration and, consequently, the natural cycle, due to the excessive amount of rainfall. These natural phenomena cannot be avoided. Nevertheless, most often it is the man who intentionally destroys the forest. Since 1966, Stražun Forest in Maribor has had the status of a nature park. In 1992, it was declared and protected as a natural attraction with the Ordinance on the Declaration of Natural Attractions in the Maribor Municipality Area (Medobčinski uradni vestnik, 1992). Moreover, in the Rules on the designation and protection of natural values it is defined as an ecosystem and formulated natural value of local importance. We find that Stražun Forest is a place that does not offer much to boast about. We ascertained that when we walked through it in order to find out what it offers. It provides jogging trails, walking and learning trails, and it is used for sitting on benches, made by an unknown carpenter. It also shelters a thermal spring, and it is a source of the thermal water that supplies two thermal baths in the vicinity. We surveyed the existing condition of Stražun Forest and determined the critical points of degradation of the area. In this article we will explore the potential that the forest offers and propose measures for the permanent remediation of the degraded area.

## 2. PRESENTATION OF THE STRAŽUN FOREST AREA

### 2.1. Location

Stražun Forest is a mixed forest, consisting mainly of beech, hornbeam, pine and oak trees. The area represents one of the larger remains of the former large-scale lowland forests in the vicinity

of Maribor. It is large enough to host some wild game species. The fact that the forest remains vacant is largely due to the moist soil in the area, which is unattractive for residential construction. Decades ago, farmland in the forest was much more widespread than it is today. Traces of the former military training ground are also overgrown (Fras, 2014). From the point of land registry, the forest is located in the area of Maribor city districts Pobrežje, Brezje and Tezno. The location used to be the old Drava riverbed until it moved north to its present location under the hill Meljski hrib. Geographically, however, the area is located in the north of the plain Dravsko polje.

## 2.2. Educational trails

Educational trails meander throughout the area of the Pobrežje Stražun Forest, intended for natural science education, i.e. for learning about plants, animals, forestry, natural phenomena and traditional crafts. They are several kilometres long and intended mostly for less demanding walkers. Some slopes, however, require greater experience and fitness. Along the forest educational trails information boards are posted. For some forest educational trails leaflets and presentation brochures can be obtained from the local offices of the Slovenia Forest Service or Tourist Board. Figure 1 shows one of the many information boards intended for forestry education.

Figure 1: Information board on a forest educational trail



Source: Author's own

## 2.3. Energy trails

In Stražun Forest, the park arrangement is complemented by an energy trail (Strazunblog, 2016) that was erected after 2000. The idea for the energy trail came from the now late dowser and bioenergetic healer, Mr Slavko Muršec, a native of Pobrežje. Mr. Muršec began to discover healing energy points randomly and that was how the energy trail was created. Therefore, the energy points are numbered erratically and not in sequence. They do, however, run in a line between the motorway and the thermal water pumping station at the end of Jurančič street. The system of marking the energy points has changed several times. At first, the energy points were indicated by colours and later by number-shaped sticks. People used to rip the sticks off the trees, so later the points were manually numbered with coloured sprays.

*Figure 2: Energy trail in Stražun forest with marked energy points*



Source: [https://strazun.files.wordpress.com/2016/06/energijska\\_pot6.jpg](https://strazun.files.wordpress.com/2016/06/energijska_pot6.jpg) (27.1.2020)

The energy trail has always been very popular, particularly among the seniors who live in the neighbourhood. Today the markings of some energy points have faded and are hardly visible. Nevertheless, the energy trail is still in use. The healing energy points are suitable for alleviating heart, lung and spine difficulties. Some visitors are quite susceptible to this energy, again others feel little energy or none at all. At certain points, people can feel a tingling sensation in their hands and fingers, or electric shocks to the head and neck.

*Figure 3: Healing energy point*



Source: Author's own

## **2.4. Recreational areas**

Recreational areas are primarily used for walking, cycling, jogging and other outdoor activities. Maintenance of landscaped recreational areas requires regular maintenance of trails leading through the entire recreational route. There are many factors involved in maintenance of recreational areas. The best solutions, however, are clearing the overgrown paths and removing obstructing branches, and cleaning the strips along the paths to such an extent that no kind of waste is found in the rehabilitated area. Care should be taken to ensure that waste does not occur at all. Therefore, it is necessary to raise people's awareness with the belief that we must care for the nature the same way as it cares for us. Also, signs should be put up to warn off from illegal waste disposal.



## 2.5. Thermal water pumping station

In the present area of Stražun Forest, the river Drava flowed during the Quaternary (the most recent period of the Cenozoic Era in the geologic time scale), until it moved its riverbed to the north, below Meljski hrib. Numerous springs have been found whose water flows into the Stražun brook. As a result, four wells have been cultivated for the extraction of thermal water, three of which are in use today (Terme Maribor, 2019).

*Figure 4: Thermal water pumping station*



*Source: Author's own*

## 2.6. Illegal waste disposal

The owners of the forest often face the problem of illegal dumping (Strazunblog, 2016a). Many uninformed and irresponsible forest visitors dump waste while walking. An even greater problem are people who, rather than dispose of the waste at a designated collection point, take it to the woods and dump it into ditches, by the roads that run through the forest or at the edge of forest clearings (Gozd-les.com, 2020). Any disposal or dumping of waste in the forest or in the nature is inadmissible and shows the uncultured and inappropriate character of an individual who does not understand that such behaviour is detrimental to the environment in which they actually live and thereby indirectly harm themselves. The Slovenian legislation is very clear in regard to waste disposal in the natural environment. In accordance with the Decree on Waste (Official Gazette of the RS, No. 47/15, No. 69/15), it is forbidden to leave waste in the environment, dump it or manage it uncontrolled. Fines range from € 100 to € 300. A fine can only be imposed on the perpetrator if he is known, which is not often the case. This means that in case of waste being dumped illegally on (a privately owned) forest land, the landowner becomes responsible for it. If waste is not immediately correctly disposed of, the disposal is ordered by the municipal inspection (in case of municipal waste) or the state inspection (in the case of other waste). In the event that the owner disregards the Decree and does not dispose of the waste, an enforcement will occur and a fine of € 2,000 to € 10,000; moreover, if the owner of the forest is a legal entity, the fine will be from € 10,000 to € 100,000.

*Figure following on the next page*

*Figure 5: Waste in the forest*

Source: <https://www.gozd-les.com/upravljanje-gozdov/gozdovi-kot-lastnina/smeti-gozdu> (27. 01. 2020)

## **2.7. Public sewer dispenser - discharge in to Stražun Brook**

In Stražun Forest there is a canal with its open trough serving as a reliever for urban sewage in the event of large quantities of meteoric waters. Water contaminated with faeces and plastic flows through the open canal (Kurin Lednik, 2019). In summertime, strong odours spread from the canal water. In addition, the visitors are repelled by the concrete trough in the middle of the forest, as it is known that it is used for wastewater discharge (Maribor24 2019, RTVSLO 2019).

*Figure 6: The Stražun Brook*

Source: Author's own

## **2.8. Consequences of ice storm in 2014**

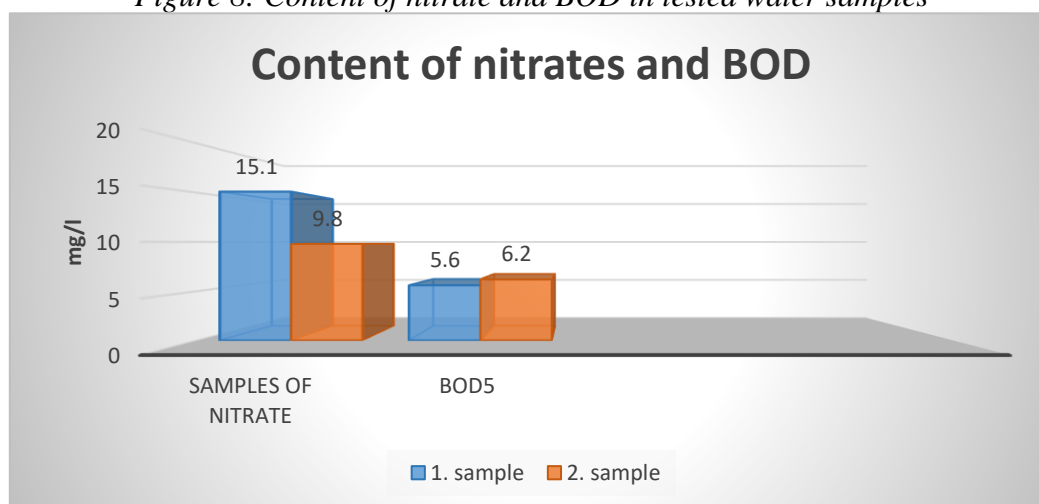
At the end of January and the beginning of February 2014, Stražun Forest was heavily damaged in an ice storm. Several roads that run through the forest were blocked for a long time due to fallen trees and broken branches. Many paths were impassable even much longer. The weight of glaze was tearing down large oaks, bending young trees to the ground and breaking branches, treetops and -trunks. Towards the end of 2014, especially in difficult-to-reach parts of the forest, many trees were still where they fell during the ice storm. Elsewhere, large broken branches and treetops were also found in the canopies. The concrete trough of the Stražun canal was covered by silt. In 2020, the consequences are still visible (Figure 7).

*Figure 7: Fallen trees due to ice storm**Source: Author's own*

### 3. THE EXPERIMENTAL PART

#### 3.1. Water testing in Stražun Brook

In January 2020, water samples were taken from the Stražun Brook. The samples were tested at the National Laboratory for Health, Environment and Food in Maribor. 2 samples were tested at 2 sites along the Stražun Brook. There are gardeners near these sites. The samples were subjected to physico-chemical analyses of nitrogen compounds and oxygen conditions, i.e. biochemical oxygen demand (BOD). Nitrates occur in water due to the introduction of artificial and natural fertilizers; BOD is a measure of the amount of oxygen needed by aerobic microorganisms to break down organic matter in water. Increased BOD concentration indicates increased amounts of faeces in water. The assessment of the results of water testing was carried out in accordance with the Decree on surface water status (Official Gazette of the RS, No. 14/2009, No. 98/2010, No. 96/2013, No. 24/2016). The thresholds for good ecological status were respected. The determined nitrate content is 9.5 milligrams per litre of water and the determined BOD content is 5.4 milligrams of oxygen per litre of water.

*Figure 8: Content of nitrate and BOD in tested water samples**Source: Author's own*

The results in Figure 8 show that both limit values of the investigated parameters in Stražun Brook are greatly exceeded, which indicates a high level of pollution of the stream.



### 3.2. Noise measurement at the thermal water pumping station

Noise is an unwanted sound. Prolonged exposure to noise causes a variety of disorders, such as hearing damage, sleep disturbance, high blood pressure, impaired concentration, agitation, increased risk of cardiovascular disease. The thermal water pumping station is located near the houses at the edge of the forest. It operates day and night. Its operation is interrupted only during the transfer of thermal water from the thermal basin onto the trucks that transport the thermal water to the thermal baths Pristan and Habakuk. Pumping water and daily transport to thermal baths disturbs the peace of the residents in the neighbourhood. This has been going on for years, but a noise fence has yet to be erected (Friš, 2007). The assessment of the results of the obtained noise values was carried out in accordance with the Decree on the assessment and management of environmental noise (Official Gazette of the Republic of Slovenia, No. 121/04). The Decree sets out criteria for the permissible noise values of outdoor noise-producing devices (in populated and non-populated areas). Figure 9 shows noise measurement sensor at the thermal water pumping station.

*Figure 9: Noise meter at the pumping station*



*Source: Author's own*

The measured noise value in the figure shows a value of 65.9 dB. According to the Decree, the permissible noise value is 65 dB during the day and 55 dB at night, which leads to the conclusion that, according to the Decree, the thermal water pump is irritating for the residents in the neighbourhood at night.

### 4. PROPOSAL REGARDING REMEDIATION OF THE STRAŽUN FOREST AREA

Based on the results of testing and the surveyed area, we propose the following activities which, in our opinion, would drastically improve the biodiversity and have a long-term impact on environmental conservation in Stražun Forest:

- Setup of sound insulation in the area of thermal water pumping station;
- Clear jogging trails and erection of boards with information about possibilities of outdoor sports activities;
- Closure or partial restriction of vehicle entry of into the Stražun area;
- More strict monitoring of the known locations of illegal dumping and of the already known violators;
- Installation of additional litter bins at strategic points;



- Afforestation of landslide areas with trees and shrubbery;
- Increase capacity of the municipal wastewater tank – rehabilitation of the current pollution of the stream, which would subsequently restore the balance in the stream (ecoremediation);
- Repair of ice storm damage. Natural and artificial restoration will be required. In the areas of larger damage, conditions for new sowing should be created. Fallen, uprooted and heavily sloped trees should be removed. Deciduous trees with more than 60% of the damaged canopy should be torn down as they disturb the natural afforestation process. The forest provides favourable thermal, light and humidity conditions, which enable successful afforestation in healthy trees. Cutting down all the evergreens with more than one third of the canopy fractures. These trees have little chance of survival and there is a probability of invasion and spread of termites. Logging residues should be stacked in piles or rows, so they do not obstruct the rejuvenation of trees. The renewal process can take several years;
- At the municipal level: provide information to raise awareness of the citizens about responsible behaviour while walking, recreation and socializing; impose stricter fines for violators who do not follow the rules on how to behave in the protected area of the forest; and to introduce the control by municipal security officers (ZGS.si, 2018). The main problem is the fact that the area of Stražun Forest is divided among over 30 owners and the official control of violations is possible only in the parts owned by the Municipality of Maribor. Moreover, only these public areas can benefit from public services such as waste disposal, landscaping of green spaces and other forest areas. On privately owned surfaces, only the owners can intervene.

## 5. CONCLUSION

There are several environmental issues in Stražun Forest. Excessive concentrations of the pollutants in the Stražun Brook endanger the quality of drinking water, as the balance of the aquatic ecosystem is disrupted. For wildlife in the forest Stražun Brook is the only source of water. Also, the nearby gardeners should be warned not to let their wastewater into this canal. It would be necessary to channel the canal water to the Maribor wastewater treatment plant in Dogoše, from where the purified water would be returned to the stream. Since the discovery of thermal water in Stražun Forest, ideas were conceived about the Maribor spa in the middle of the forest, which could give the neglected urban forest a new opportunity for growth of tourism. These ideas were later abandoned, as the construction of a huge tourist complex would further degrade the overall image of the forest (Friš, 2007, pp. 65). Today, Stražun Forest is the habitat of many animal and plant species. More than 50 species of birds nest in its trees. Also, some non-native plant species can be found here, such as Canada goldenrod, octopus stinkhorn, bamboo, ragweed, southern catalpa. There are also non-native animal species in Stražun Forest. The most distinct is probably the goldfish in the wetlands at the western end of the forest, which is most likely a result of irresponsible aquarists releasing non-native species into the wild. A large proportion of non-native species represent the insects such as Asian bush mosquito and Asian ladybeetle. The non-native species pose a problem because they breed rapidly due to favourable conditions, and are thus displacing the native species, as they become rivals for space, food and other important life resources. Also, the non-native species can spread various diseases into the ecosystem, which may not harm them but can endanger the native species. This can lead to a complete transformation of the ecosystem, where native species are driven out of the area. The basic function of the forest is educational and recreational; it is a promenade for townspeople and other visitors. It can by no means be a motocross track or a mountain bike racing track. Stražun Forest is not solely our air filter, it has to be preserved and nurtured as a monument. People should behave like invisible visitors and admirers. In the present time of crisis and work overload one needs unspoiled nature to find relaxation and peace. Therefore, let us act responsibly and preserve what the forest has to offer.

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## PSYCHOLOGICAL CONTRACT IN THE PERCEPTION OF EMPLOYEES WITH REGARD TO SOCIODEMOGRAPHIC CHARACTERISTICS

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### ABSTRACT

*A psychological contract is a relatively new form of agreement that outlines the mutual expectations of the employee and the employer. Unlike an employment contract, it is not drafted in writing but is instead focused on the individual's ambitions, values and motivation. The psychological contract and the employment contract provide an accurate representation of the relationship between the employee and the employer, and since each employee is an individual, each psychological contract will differ. The aim of this study was to examine the employee attitudes towards the employment contract, in particular, to determine employee understanding of the concept of the psychological contract. Another objective was to determine whether there is a relationship between employee sociodemographic characteristics, and violations of the psychological contract. The research method was a survey questionnaire, conducted on a sample of 59 employees in organisations of varying hierarchical structure. A regression analysis of the questionnaire results found that the vast majority of interviewed employees are still unfamiliar with the psychological contract. One-way analysis of variance examining the sociodemographic characteristics of employees indicated that there were no statistically significant differences in the perceptions of fulfilment of the psychological contract. Transparency of the psychological contract is more difficult to achieve today than in previous years due to changes in market trends and working conditions in organizations (lack of permanent employment, introduction of part-time employment, providing opportunities for creativity in employee work, moving away from strictly defined job descriptions, etc.). It is necessary to further strengthen communication channels between employees to build and develop a two-way relationship, with the intention of maintaining, upgrading and developing this relationship. This in turn builds greater employee satisfaction, and also ensures greater company success.*

**Keywords:** *Employees, Employment contract, Psychological contract, Workplace behaviour*

### 1. INTERDUCTION

Pursuant to the Labour Act, the employment contract is the framework that regulates the relationship between the employer (organization) and the employee. The employee does not have significant influence on the content and regulation of such a contract, and are generally left with the option of accepting or rejecting the offered contract. A psychological contract, on the other hand, can be of greater importance, as it influences human behaviour (i.e. of both the employee and the employer) and provides a perception of their mutual relationship. The psychological contract is based on the daily activities and statements of one party, and how the

other party perceives and understands, i.e. interprets them (Bazcor, 2019). Research and interpretation of the psychological contract is relatively recent, beginning in the 1960s. The term is used to describe the relationship between an employee and the organization (employer) by implying an implied agreement between the two parties - the employee and the parent in the organization. The connection between work and employee behaviour in the workplace is an additional attribution to the psychological contract, and can be positive or negative. Based on the problem described and the outlined purpose of the study, the following hypotheses were set:

- H1: employees are not familiar with the concept and meaning of the psychological contract;
- H2: there is no correlation between the violation of the psychological contract and the sociodemographic characteristics of the employees.

Work, as a purposeful and consciously organizationally defined activity of people (employees), and attitudes towards work as a personal evaluation of one's work obligations and expression of the individual's view of their work, and the evaluation and ability to relate to work obligations, form the basis for understanding and accepting the behaviour of employees in the work environment. These are considered indicators that make it easier for an organization to understand and anticipate the cognitive and emotional actions and reactions in employee behaviour. It is important to emphasize the importance of employee attitudes in the context of employment contracts and psychological contracts that employees develop in their workplace (Marušić, 2001; p. 255). Employee attitudes are multidimensional, prone to change and influenced by a range of factors such as salary, workplace training, the work environment, etc. In short, it is possible to categorize work attitudes into traditional and contemporary trends. The most significant traditional trends in attitudes towards work are job satisfaction, employee motivation, occupation, and loyalty to the organization (Vujić, 2005). Recent trends in attitudes towards work include the involvement or engagement of employees, trust, and strong organizational support. It is desirable that employees have a positive and not a negative attitude towards their organisation, and this attitude will also determine the duration of the psychological contract.

## 2. PSYCHOLOGICAL CONTRACT

A psychological contract consists of the mutual expectations of both the employee and the employer. Unlike an employment contract, it is not drafted in writing and is instead focused on the individual (employee ambitions, values and motivation). Together, the psychological contract and the employment contract represent the overall employee-employer relationship, and since each employee is an individual, each psychological contract is different. The concept of the psychological contract was developed by Denise M. Rousseau at Carnegie Mellon University. She reconceptualized the psychological contract in 1989, defining it as an individual belief system pertaining to a reciprocal exchange agreement between an individual and his or her organization. Unlike the traditional understanding of the psychological contract that arises from needs, the new concept is based on the promise of future mutual commitments by the individual and the organization (Rousseau, 1989). It is continuously evolving, based on the communication of the parties or lack thereof (e.g. increase of salary, promise of bonuses, promise of promotion, etc.). Ongoing, sound communication between the employee and the employer will positively effect the quality of the psychological contract. Employees perceive that they are valued by the employer and consider that their role is important towards achieving greater organizational success. Mutual expectations relate not only to a specific reward for a particular employee's performance, but also include the full range of rights, privileges and obligations between the employee and the organization. Aligning these expectations and meeting them has an impact on many positive outcomes for the organization, such as job satisfaction, loyalty to the organization, and greater work efficiency (Coyle-Shapiro and

Parzefall, 2008). It is clear that communication is a key element upon which the psychological contract is based. Ongoing open communication enables and permits changes in the terms of the psychological contract if necessary, but also aids both parties to avoid creating unrealistic expectations. Communication quality is a significant factor that determines the duration of the employee-employer psychological contract. In the absence of communication, the psychological contract (tone of voice, speech, tension, body language, etc.) is adversely affected (Stevenson, 2018). Transparently conceptualized conditions offered by the employer to the employee and management of employee expectations are important elements of employer behaviour that ensure that employees will not have unrealistic expectations that cannot be met. Employees must also reduce their expectations to ensure they are objective that are not misinterpreted by employers, who are realistic about their expectations and possibilities (e.g. difficult personal circumstances, etc.). (HRZONE, 2019).

### **3. SOCIODEMOGRAPHIC CHARACTERISTICS OF THE PSYCHOLOGICAL CONTRACT**

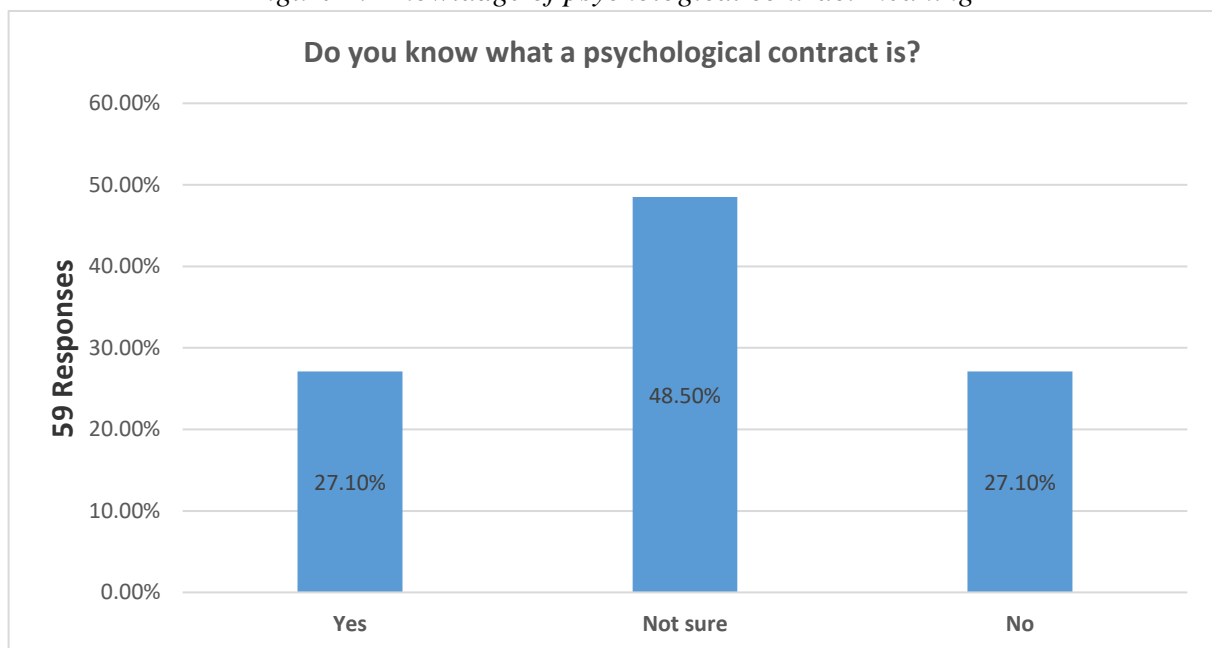
There are few studies examining the association between different demographic characteristics and perceptions of psychological contract fulfilment, and their findings are also inconsistent. Age has been largely explored as a moderator of the relationship between the psychological contract and attitudes toward work, such as job satisfaction. Some authors hypothesize that a breach of the psychological contract will have a less negative outcome for older employees due to their more developed emotional regulation skills (Farr and Ringseis, 2002; according to Bal, 2009). Although this assumption has not been empirically confirmed, a meta-analysis by Bal et al. (2008; according to Bal, 2009) partially supports this assumption. Some authors state that other individual characteristics, such as personality traits (Tunley and Feldman, 1999), may also impact the perception of the psychological contract, though empirical verification of these assumptions is scarce (Raja, Johns, and Ntalianis, 2004; according to Coyle-Shapiro and Parzefall, 2008), and the results are inconsistent. Workplace behaviour does not have a precise definition, since it includes multiple facets: job performance, creativity, responsible organizational behaviour (productivity), irresponsible organizational behaviour (counterproductivity), procrastination, and leaving work. Individual differences may account for the greater or lesser success of one employee versus another, and how individual employees in the work environment treat other employees and their superiors, which ultimately affects work performance. Individual differences that determine work behaviour are the personal motivation for work, perception and attachment, the abilities and skills that a person possesses to perform their work responsibilities and tasks, interests, personal attitudes, values, diversity factors and hereditary factors (gender, age, education, etc.), and the personality (traits) of the employee. All of the above make each employee different and unique. Some personality traits are perceived as more desirable for individual work, while others are better suited to teamwork, all of which should consequently lead to greater success in the work of the organization. A desirable element of work behaviour is also assisting one's coworkers. A high level of conscientiousness of employees who, as such, are considered to be particularly effective, responsible and capable in their work is particularly appreciated in the workplace (Robbins and Judge, 2009; p. 80, 106).

### **4. RESULTS**

The age structure of respondents was as follows: 2 up to 25 years, 16 from 26 to 35 years, 26 from 36 to 45 years, and 15 over 46 years. The highest percentage of respondents, almost, half, were employed for more than five years (40.7%). In terms of education level and pursuit of jobs, in the age group up to 25 years, both respondents held university qualifications and performed administrative or other tasks.

In the age group 26 to 35 years of age, respondents had secondary qualifications (one respondent), or completed vocational studies or university qualifications, and performed a wide range of jobs, from leadership positions to administrative jobs, IT jobs, technical jobs, and auxiliary jobs. In the age group 36-45, two respondents had secondary qualifications, two respondents had vocational qualifications, and three respondents had university qualifications, performing mainly administrative tasks, lower managerial tasks and –auxiliary jobs. In the age group of 46, one respondent had completed professional studies and performed auxiliary jobs. Regarding the duration of employment, 13.6% of respondents were employed in the range of 6 to 9 years, and 18.6% in the range of 10 to 14 years, while 27.1% worked in the same organization for 15 years or more. In this latter category are respondents in the age group of 36 to 45 years and 46 years and over, with secondary, professional or university qualifications, performing managerial, administrative, technical and other auxiliary jobs. Exactly half of respondents have tertiary education, while a very small ratio respondents only have primary qualifications. The majority of the group, 40.7% perform administrative occupations, and 39.7% of respondents are mostly satisfied with the concluded employment contract and the agreed working conditions, while 93.1% of the respondents claim that they have a positive working environment, and that they act motivationally, respect their colleagues and are considerate in their work and relationships with others.

*Figure 1: Knowledge of psychological contract meaning*

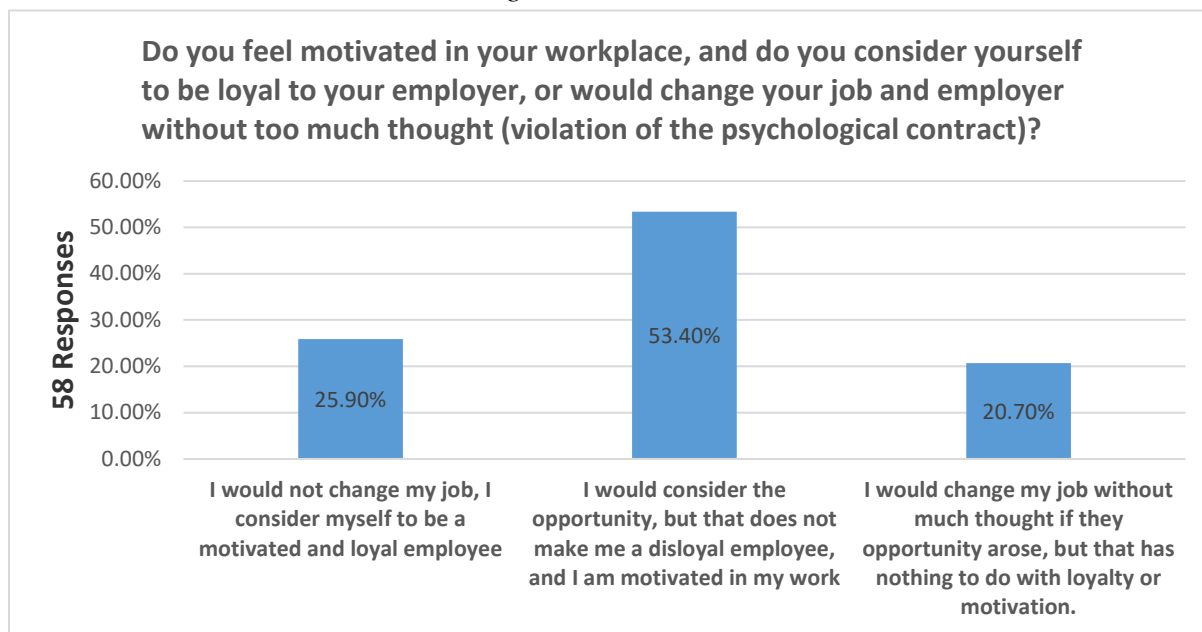
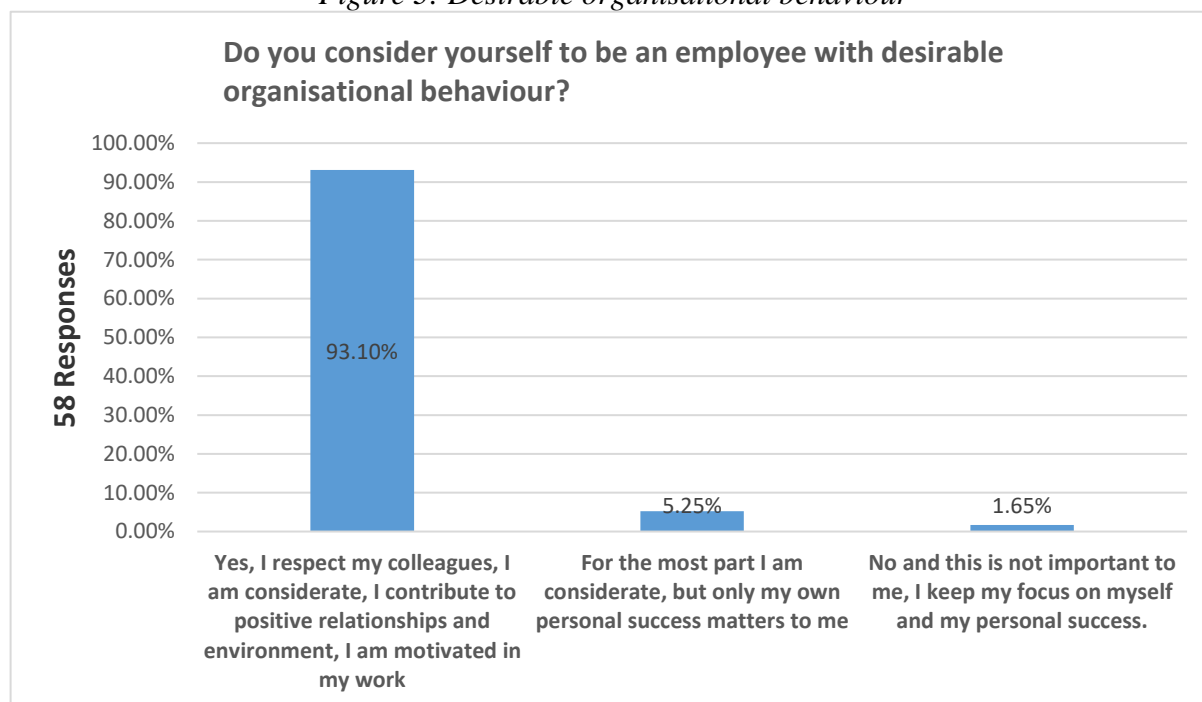


*Source: Author*

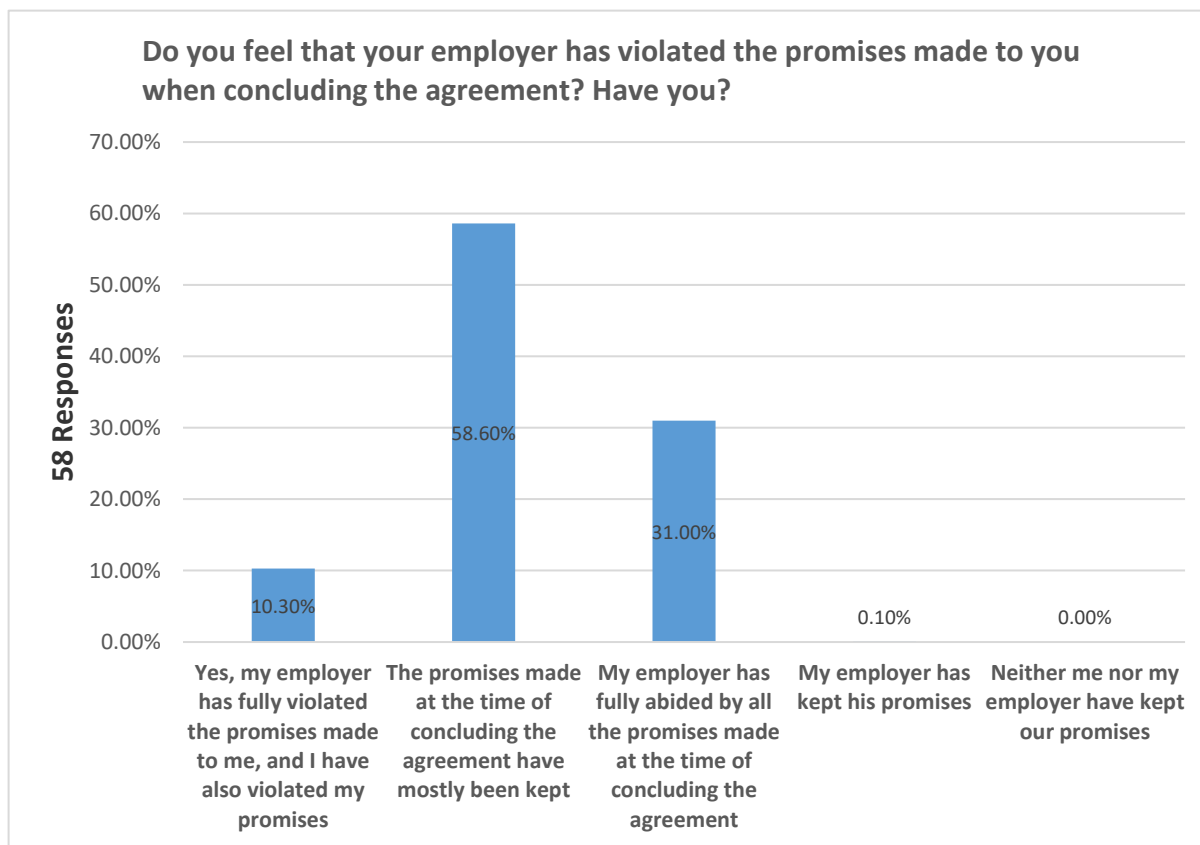
When asked whether they knew what a psychological contract is, only 27% of respondents answered yes.

- From the data obtained, we can confirm H1: employees are not familiar with the concept and meaning of the psychological contract.

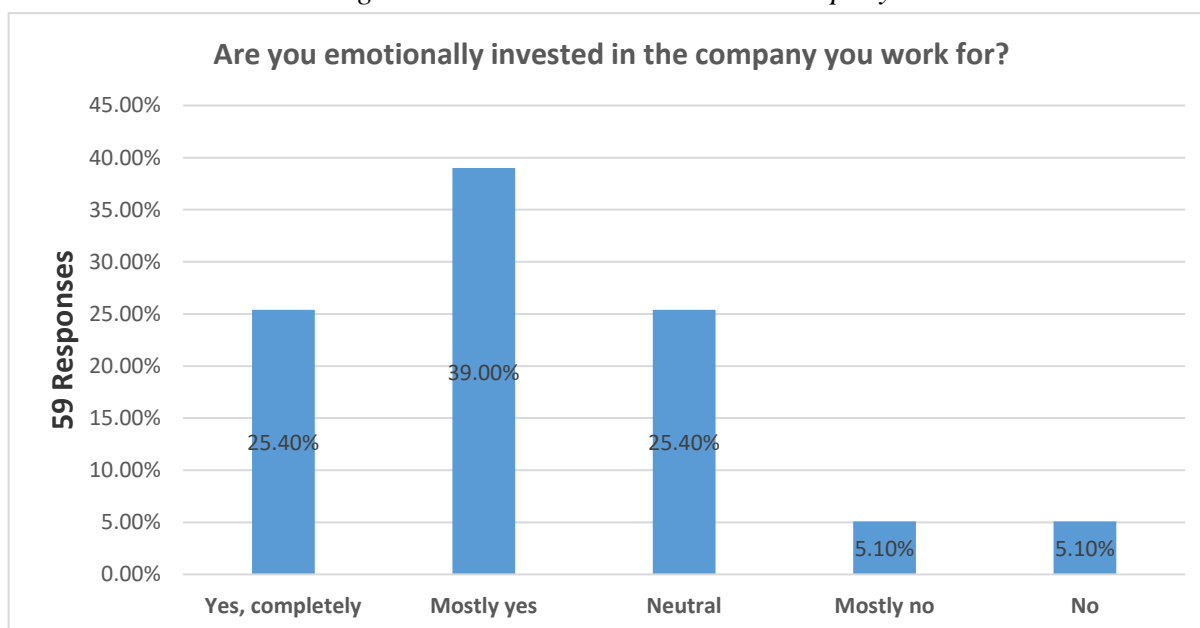
To the question: Do you feel motivated in your workplace and feel loyal towards your employer or would you change your job and your employer without thinking? (Violating the psychological contract), only 25.9% of respondents would not change their jobs and feel loyal towards the employer. However, a large percentage (51.4%) responded that they would consider this possibility but do not consider themselves to be a disloyal employee.

*Figure 2: Motivation**Source: Author**Figure 3: Desirable organisational behaviour**Source: Author*

Almost all respondents defined themselves as employees of desirable organizational behaviour and feel that they are considerate in their daily work engagement with colleagues and superiors. They consider themselves to be positive, contributing to a positive atmosphere, and as motivated and respectful of their colleagues. Such a structure of respondents is the most desirable group to all employers and is highly valued in organizations. A work environment composed of such employees develops dynamically and contributes to the business success of the organization. A very small number of respondents declared themselves to be individuals who view their success and their benefits over those of others in their work environment.

*Figure 4: Violation of promises by employer**Source: Author*

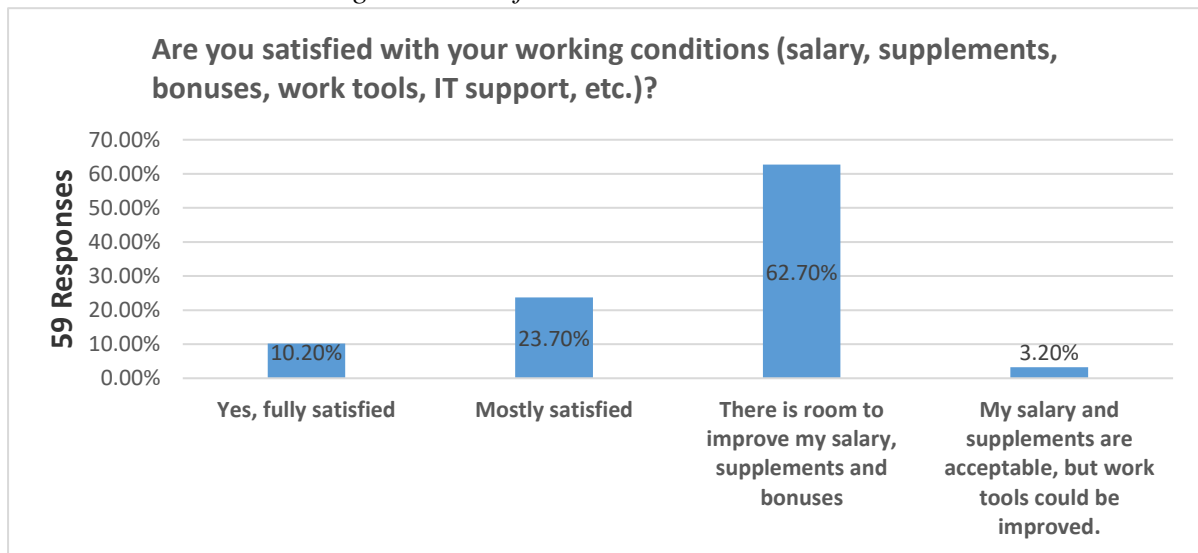
It is evident that the respondents believe that the promises made to them at the time of concluding the contract have been kept, and also believe that they have fulfilled their promises towards the employer (organization), which is a sound basis for the psychological contract and its further development.

*Figure 5: Emotional investment in company**Source: Author*



These answers are complementary to the previous question. Most respondents stated that they are emotionally invested in their organization. Emotionally invested respondents are structured into a larger proportion of those who are strongly committed to their organization, with some variations in this regard. A smaller number of respondents consider themselves fully invested in their organization. It is very interesting to see a group of respondents who feel neutrally towards their organization, and the percentage of this group is equivalent to the group who feel that they are fully committed to their organization.

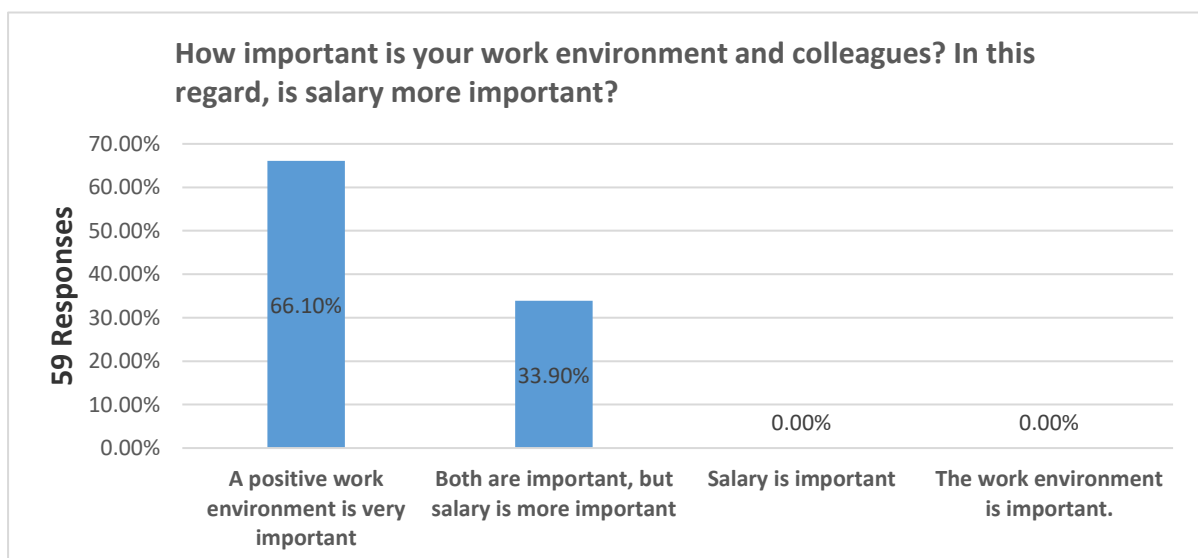
*Figure 6: Satisfaction with work conditions*



*Source: Author*

A higher percentage of fully satisfied employees would have been expected, though many respondents stated that there was still room for discussion with the employer regarding the increase of salary, supplements, and bonuses. The material rights of respondents is particularly sensitive issue that requires careful, clear and concise negotiations between the employee and the employer. It is also logical to ask priority questions, as to whether employees consider their salary or work environment to be more important.

*Figure 7: Importance of work environment*



*Source: Author*

The above group shows that a positive work environment and good relationships with colleagues is most important to respondents. Work motivation and a positive work environment stimulate and develop the potential of respondents and increase their success, which is the intention and goal of each organization, i.e. employer. The overall results confirmed the H2 hypothesis, i.e. there were no significant differences in breach of psychological contract between different sociodemographic groups. The differences observed were not statistically significant, and it is not possible to conclude that sociodemographic groups and violations of the psychological contract are related. Respondents in the age group up to 25 years of age stated that they were mostly satisfied with their working conditions, but would consider the possibility of changing jobs for improving working conditions. They felt that the employer appreciates and respects them. They are mostly satisfied with the communication and the relationship, the fulfilment of items of the psychological contract with the employer, but would also change their jobs without much thought if a better opportunity arose. They recognize opportunities that they could use for personal gain, but do not want to take advantage of them. Respondents in the age group of 26 to 35 years, the age group of 36 to 45 years and from 46 years of age onwards gave very similar answers. Their responses to education level, seniority in the organization, and the hierarchical level they occupy were also similar, with slight differences. Respondents in higher positions in organizations usually receive higher bonuses, allowances, and material benefits, are more involved in actual decision-making within the organization, the organization shows them a greater degree of respect than hierarchically lower ranking respondents. Therefore, this group is prone to interpret fairness in the work environment and organization in a more positive context than hierarchically lower ranking respondents. Respondents employed for a shorter period of time in the organization, unlike those with more years of service in the same organization, have a less control in deciding the outcome of particular decisions that benefit them (e.g. salary increases, bonuses, better working conditions, etc.). Respondents with longer work experience, because of their more stable position in the organization, are more likely to express their dissatisfaction and object to unfavourable decisions, i.e. they are more willing to object to the quality of the relationship, i.e. the communication channel with the employer/superior. However, such respondents may also reflect their dissatisfaction with the work environment, the job, or their organization, but given their age, there is little or no opportunity to change jobs due to this kind of dissatisfaction.

## **5. CONCLUSION**

A psychological contract is a relatively new contractual form and the vast majority of employees, regardless of hierarchical level, do not know exactly what a psychological contract is. By strengthening communication channels between the employee and the employer, both parties build and develop a two-way relationship, with the intention of maintaining and continuously improving this relationship. This ultimately results in greater employee satisfaction and greater organizational / company success. Given that a psychological contract is not a written contract and does not have a strictly defined (prescribed) formal content, like an employment contract, it is important to maintain constant communication between the employee and the employer to ensure the relationship is positive. Communication skills are learned and continually developed through workshops and consultations, no matter the cost to the employer; they are ultimately immeasurable when it comes to the success of the company / organization as a whole. The art of controlling emotions, showing empathy when needed, and carefully choosing words are elements that build and strengthen quality communication, and should be shared equally by employees and employers. Finally, the effectiveness of communication is measurable by achieving better results. Business communication requires clear and unambiguous expression, with emphasis on the area and subject matter that it relates to.

The same is required in implementing the transparency of the content of the psychological contract. The parties must agree on the content, they must find common interests and the mutual benefit to ensue from the contract. The definition of the content of the contract must be unambiguous and clear to both parties. Misinterpretation creates space for dissatisfaction, especially if the agreed content is not fulfilled, in whole or in part. An open and professional approach by both the employee and the employer is certainly appreciated, making it easier to reach agreement of any kind, especially regarding the content of the psychological contract. Transparency of the psychological contract is more difficult to achieve than in previous years, due to changes in market trends and working conditions in organizations (lack of permanent employment, introduction of part-time employment, providing opportunities for creativity in employee work, instead of strictly defined work descriptions, etc.). Both employees and employers should be educated and aware of the meaning of the psychological contract, as this survey showed that a very small number of employees are familiar with the concept and meaning of the psychological contract.

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## TOP LEVEL DESIGN CONTRIBUTION TO THE DESIGN PROCESS

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### ABSTRACT

*Software package VisualSIM is used for modeling and simulation of electronic systems at the top level. Using it, designer can perform architectural analysis of algorithms, components, software instructions and hardware/ software partitioning. VisualSim Architect, as a commercial version of the research project at University of California, Berkeley, has many attributes that make it applicable for enhancing the education process, hands-on student experience and projects. It has a powerful graphical user interface and can be used for performance trade-off analyses using indicators such as bandwidth utilization, application response time and buffer requirements. In the article we analyze system level modeling challenges and consider the tool from the applicability in education process and creativity point of view.*

**Keywords:** *Hardware/software partitioning, Algorithms analysis, Top level design, System-level design*

### 1. INTRODUCTION

The consumer products market is the fastest growing segment of the electronics market. The world economy is feeding an ever-increasing demand for consumer electronics. Companies and individuals who can meet this demand face extraordinary opportunities. To compete in this business, companies must master two areas:

1. The ability to realize unique functionality in packaged IC electronic circuitry;
2. The ability to bring a complete system product (hardware, software, and enclosure) to market more quickly than the competition.

In this environment, predictability is the cornerstone of every kind of success. Design knowledge must be transferable from one project to another with complete reliability to prevent having to redesign existing functions. Designs must be made portable so that components can be shared between projects, thus allowing a design manager to assign large portions of the functionality to predesigned, reliable, and predictable blocks of intellectual property. With reusability as a framework, the design manager's task moves from one of time-consuming, high-risk estimation to one of assembling components from a library of well-characterized functions. „Electronic Design Automation (EDA) is a key factor for fast and efficient development of complex digital, mixed-signal/mixed-domain systems. The ultimate goal of EDA is to provide a comprehensive top-down design method with secured constraint propagation between all design steps from system definition down to integrated-circuit mask generation“(1). In the article we will review characteristic steps in SOC (system-on-chip) design process in order to determine what steps are appropriate for students in their first year at University, which can help them boost innovation and creativity.

## **2. METHODOLOGY FOR SYSTEM-ON-CHIP DESIGN**

The methodology includes the creation of executable functional specifications and virtual prototypes, architectural definition and building blocks selection and tradeoffs, design refinement and HW-SW implementation processes. Particular emphasis given to algorithm based design and implementation, integration architectures for mixed control systems, tradeoffs of mixed signal/RF vs. digital processing, and communications oriented verification processes. Formal verification processes including equivalence and property checking. HW-SW co-verification process oriented to control, communications and multimedia systems. System on chip Methodology includes Timing driven design methodology and Block based design methodology outlined below:

### **2.1. Block based Design**

An integration-constrained, top-down design methodology for generating Virtual Component layouts from RTL. The methodology incorporates pre-defined functional blocks into a hierarchical, timing driven design-based process. This Methodology uses RTL-level floor planning to transform system-chip specifications into constraints for the logical and physical synthesis processes. Outputs from this process include verified building blocks, and models, which can be utilized in HW-SW co-simulation, and system-level integration processes. Block-based design methodology also covers the modifications of existing Virtual components to enable effective re-use. The Block Based Design Methodology begins at the point where the system-level design of both product and IC is complete. BBD focuses on IC design from register-transfer level (RTL) to output (in GDSII interface language format). BBD comprises Hierarchical, logical and physical design. This methodology includes the following processes:

- Front-end acceptance;
- Chip Planning;
- Block Design;
- Chip Assembly;
- Verification.

### **2.2. Timing driven design methodology:**

A top-down, constraint-driven design methodology that starts with the RTL description for a building block and results in a functionally, performance and manufacturability-verified physical layout of the design. The process relies on mapping during synthesis into well-characterized standard cell libraries, and also supports the embedding of a small number of larger function blocks (e.g. memories, data paths). Constraints of primary interest include timing, power and area, which are used to drive synthesis and physical layout processes. List of processes includes:

- Top-down driven synthesis process;
- Physical Floor planning process;
- Timing, Function and manufacturability driven verification process;
- Physical design layout process;
- Standard cell library characterization and reuse process.

## **3. ELECTRONIC SYSTEM-LEVEL DESIGN**

Electronic system level (ESL) is a design abstraction that enables ease of design capture and early design space exploration of multiple design implementation alternatives. ESL designs can be refined into lower levels of abstraction through a number of steps that gradually map abstract functions into register-transfer level (RTL) components, which is the next level of design abstraction. Electronic system-level (ESL) design is emerging as an important design approach for more complex electronic system design problems [3].

Rather than focusing on design details, the ESL approach concentrates on the higher levels of design abstraction. It is not the same as behavioral modeling, rather it is advancement on what was attempted to be achieved by behavioral modeling. There are a number of reasons for considering an ESL approach. The work is undertaken at a high level of abstraction, allowing ideas to be rapidly developed and evaluated without time-consuming detail work. The design is created and the operation simulated using a high-level modeling and simulation language (3). The implementation (down to the basic digital logic hardware and software programs) is undertaken using a suitable EDA tool or set of tools.

#### 4. DESIGN: THE LINK BETWEEN CREATIVITY AND INNOVATION

We believe that, when it comes to education process it should utilize examples that illustrate how creativity and innovation are parts of a design process. We can enable students creativity by encouraging them to use the system level design tools in order to focus solely on ideas they would like to realize. Designs' ability to make things deliver functionality needed, look good and appeal to customers is proven, but design is so much more than that. Creativity is the generation of new ideas/new Intellectual Property (IP); Innovation is the successful exploitation of new ideas; Design is what links creativity and innovation. (Triangle DCI) Chairman of the Design Council, George Cox said „Creativity is the generation of new ideas/new Intellectual Property (IP); Innovation is the successful exploitation of new ideas; Design is what links creativity and innovation. It shapes ideas to become practical and commercially attractive propositions for businesses and their customers. This tells us that design is a process and many companies know it's a route for successful innovation. As with all good innovation processes, it should be open, collaborative, research based and user/customer centered (4). It's a challenge for students to experience and participate in the mentioned DCI triangle. But with the tool like VisualSim we believe it can be achieved. VisualSim Architect is an ESL software that can be used for modeling and simulation of electronic systems, embedded software and semiconductors. VisualSim is a graphical tool that can be used for performance trade-off analyses using such metrics as bandwidth utilization, application response time and buffer requirements. It can be used for architectural analysis of algorithms, components, software instructions and hardware/ software partitioning (2).

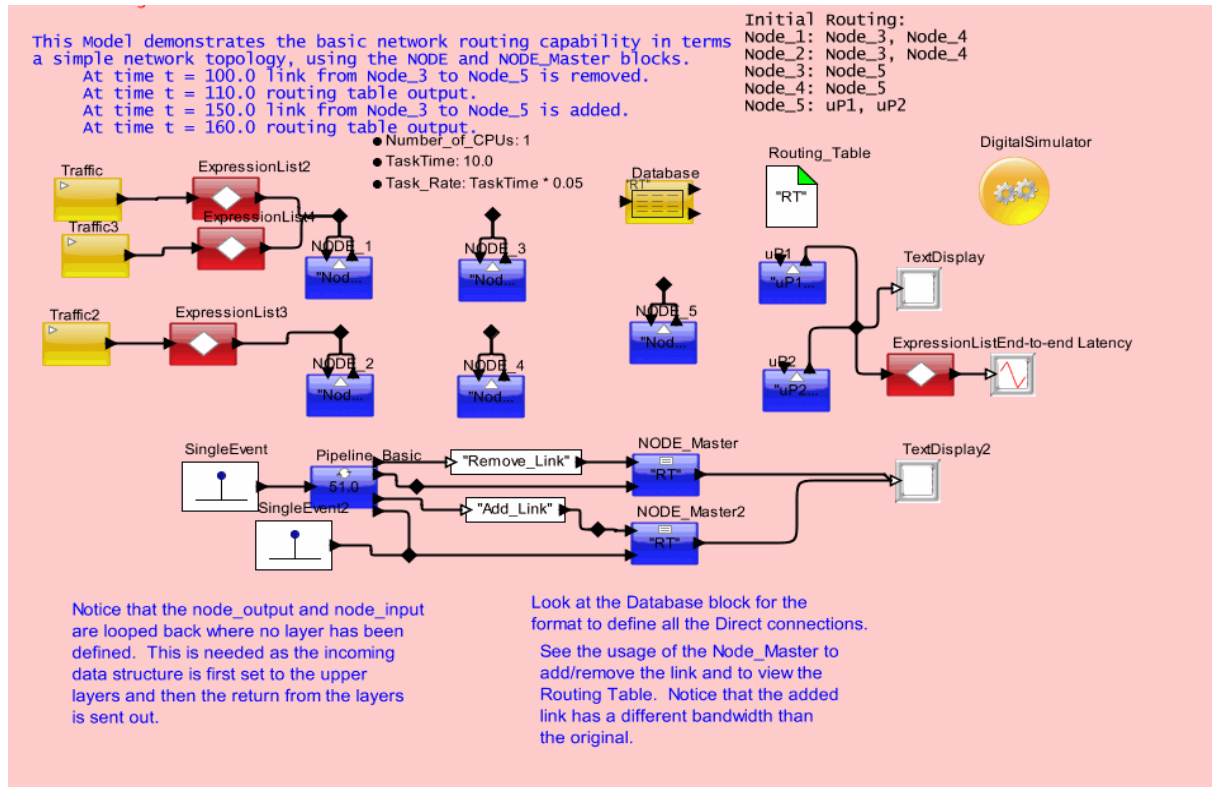
#### 5. EXAMPLES

Examples that follow illustrate areas and topics that can be used in order to make it easier for students to create cases and solutions with the knowledge they acquire during first year at the University of Applied Science. Examples were created using VISUALSIM software.

*Table 1: Example 1 - Network basics: routing table construction and dynamic link analysis (4)*

<b>Area</b>	Networks & IoT
<b>Topic</b>	Network basics: routing table construction and dynamic link analysis
<b>Description</b>	Model a simple 7-nodes network using the Mirabilis VisualSim software. Simulation is used to analyze sending and packet's network path. Model evaluates usability and required capacity of each network node, also the optimum path between network devices considering different workloads. This process is used to determine optimal network topology and to reduce costs related to equipment selection and costs of planning hours.

Picture 1: Basic network model



Source: [https://www.mirabilisdesign.com/launchdemo/demo/networking/Network\\_Basic/](https://www.mirabilisdesign.com/launchdemo/demo/networking/Network_Basic/)

Table 2: Example 2 - Network architecture modeling (4)

<b>Area</b>	Networks & IoT
<b>Topic</b>	Network architecture modeling
<b>Description</b>	Using Mirabilis VisualSim IoT Modeler model network topology. Choose optimal network components and parameters by comparing and optimizing generated computer model. With the model we analyze the performance of a selected network architecture using precise models, without restrictions that exists when using tools based on approximate methods. Source: <a href="https://www.eletimes.com/iot-modelling-software-helps-explore-architecture-performance">https://www.eletimes.com/iot-modelling-software-helps-explore-architecture-performance</a> , <a href="https://www.slideshare.net/DeepakShankar4/how-to-create-innovative-architecture-using-visualsim-60440035">https://www.slideshare.net/DeepakShankar4/how-to-create-innovative-architecture-using-visualsim-60440035</a>

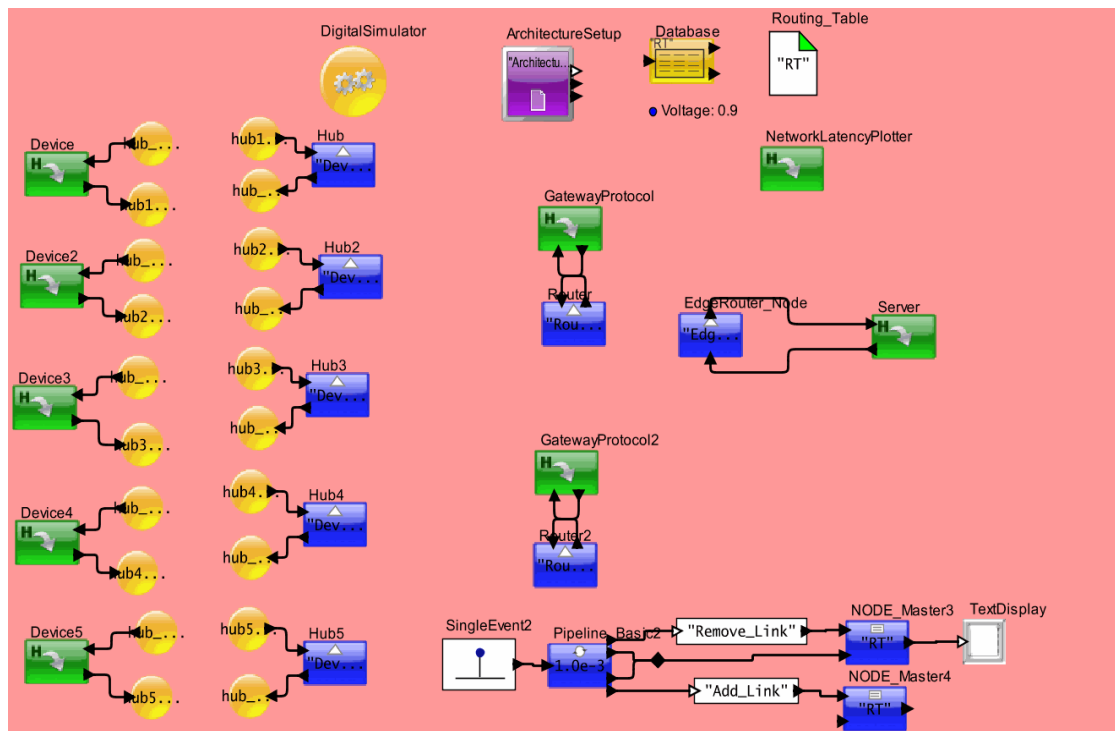
Table 3: Example 3 - Simulating the power consumption and timing (4)

<b>Area</b>	Networks & IoT
<b>Topic</b>	Simulating the power consumption and timing
<b>Description</b>	Using Mirabilis VisualSim IoT Modeler model optimal IoT network topology by minimizing number and size of communication requests between network components. Determine network latency and choose optimal network components and parameters by using the discrete-event simulation of the model. Webinar: <a href="https://www.youtube.com/watch?v=CRCiE0EL8nk">https://www.youtube.com/watch?v=CRCiE0EL8nk</a> Source: <a href="https://www.mirabilisdesign.com/launchdemo/demo/performance/IoT/IoT_Model_5_Nodes_V6/">https://www.mirabilisdesign.com/launchdemo/demo/performance/IoT/IoT_Model_5_Nodes_V6/</a> (Scheme is shown in Table 4)

Table 4: Example 4 - IoT network power consumption optimization (4)

<b>Area</b>	Networks & IoT
<b>Topic</b>	IoT network power consumption optimization
<b>Description</b>	Using Mirabilis VisualSim IoT Modeler model optimal IoT network topology optimizing for lowest energy consumption. Determine system's energy consumption and choose optimal network components and parameters by using the discrete-event simulation of the model. Webinar: <a href="https://www.youtube.com/watch?v=CRCiE0EL8nk">https://www.youtube.com/watch?v=CRCiE0EL8nk</a>

Picture 2: Basic network model



Source:

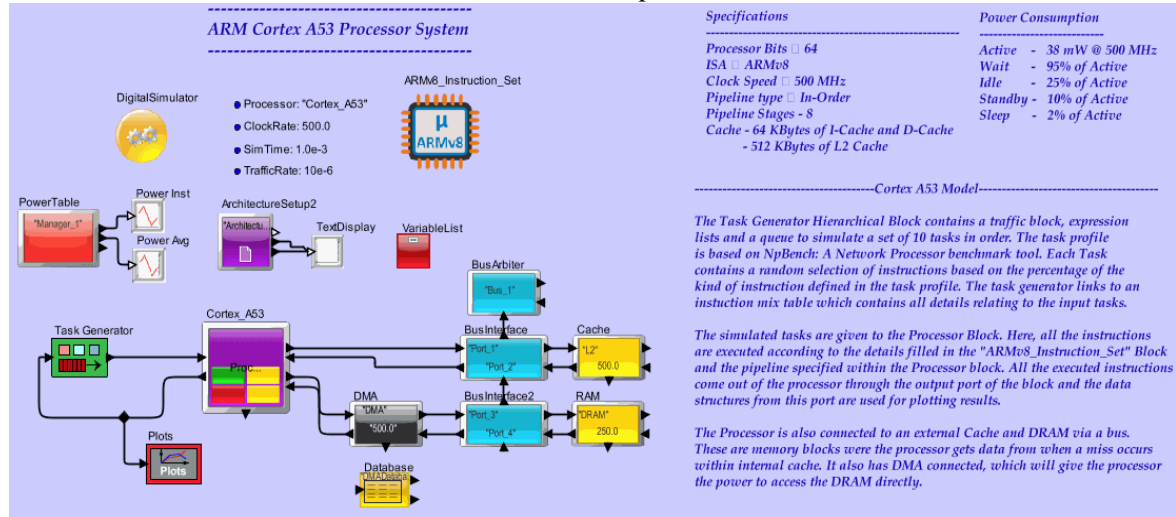
[https://www.mirabilisdesign.com/launchdemo/demo/performance/IoT/IoT\\_Model\\_5\\_Nodes\\_V6/](https://www.mirabilisdesign.com/launchdemo/demo/performance/IoT/IoT_Model_5_Nodes_V6/)

Table 5: Example 5 - ARM Cortex A53 processor simulation (4)

<b>Area</b>	Computer Architecture
<b>Topic</b>	ARM Cortex A53 processor simulation
<b>Description</b>	Using Mirabilis VisualSim create the ARM Cortex A53 model by implementing data profile from NpBench software package. Analyze task latency, energy consumption and data of individual system components. Analysis determines viability of selected components before building potentially expensive prototype. Notice: this is the most complex assignment that should span over few laboratory lectures, depending on selected modules which student is required to create and analyze. Source: <a href="https://www.mirabilisdesign.com/launchdemo/demo/HAL/A_Cortex/ARM_Cortex_A53/">https://www.mirabilisdesign.com/launchdemo/demo/HAL/A_Cortex/ARM_Cortex_A53/</a>



Picture 3: ARM Cortex A53 processor simulation



Source:

[https://www.mirabilisdesign.com/launchdemo/demo/HAL/A\\_Cortex/ARM\\_Cortex\\_A53/](https://www.mirabilisdesign.com/launchdemo/demo/HAL/A_Cortex/ARM_Cortex_A53/)

Table 6: Example 6 - Architecture Cache: analyzing the performance of legacy software applications in a multi-core environment (4)

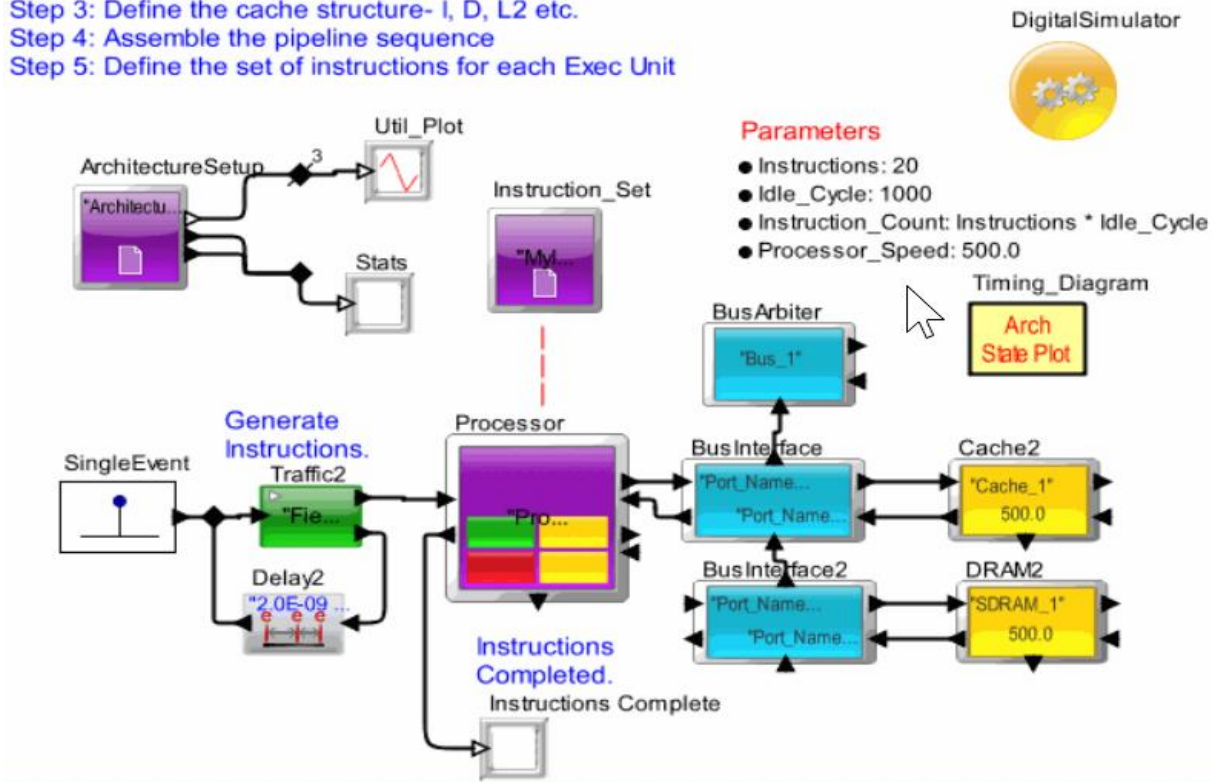
<b>Area</b>	Computer Architecture
<b>Topic</b>	Architecture Cache: analyzing the performance of legacy software applications in a multi-core environment
<b>Description</b>	<p>Using Mirabilis VisualSim analyze existing software solutions performances in multi thread environment. Outcome of the exercise is demonstration and analysis of scaling possibilities of existing (legacy) applications multi thread environments (16-32 cores), compared to one for which they are designed for (4-8 cores).</p> <p>Outcom is to demonstrate how increasing number of cores a legacy application will actually realize a decrease in performance due to resource contention at L3 cache levels as well as main memory.</p> <p>Therefore, a model of the Nehalem processor was developed using the VisualSim tool in order to capture current performance and then predict behavior as the number of cores increases. This will allow software developers to be ready for new multi-core processing systems before they actually are available to the market. It will also allow for the definition of new software development paradigms applied to multi-core systems.</p>

Picture following on the next page

Picture 4: Architecture Cache: analyzing the performance of legacy software applications in a multi-core environment

## Basic Processor Model

- Step 1: Define the Performance characteristics  
 Step 2: Define the resources- Exec Unit and Pipeline stages  
 Step 3: Define the cache structure- I, D, L2 etc.  
 Step 4: Assemble the pipeline sequence  
 Step 5: Define the set of instructions for each Exec Unit



Source:

[https://www.mirabilisdesign.com/launchdemo/doc/Training\\_Material/Architecture/Processor/Basic\\_Processor\\_Model/](https://www.mirabilisdesign.com/launchdemo/doc/Training_Material/Architecture/Processor/Basic_Processor_Model/)

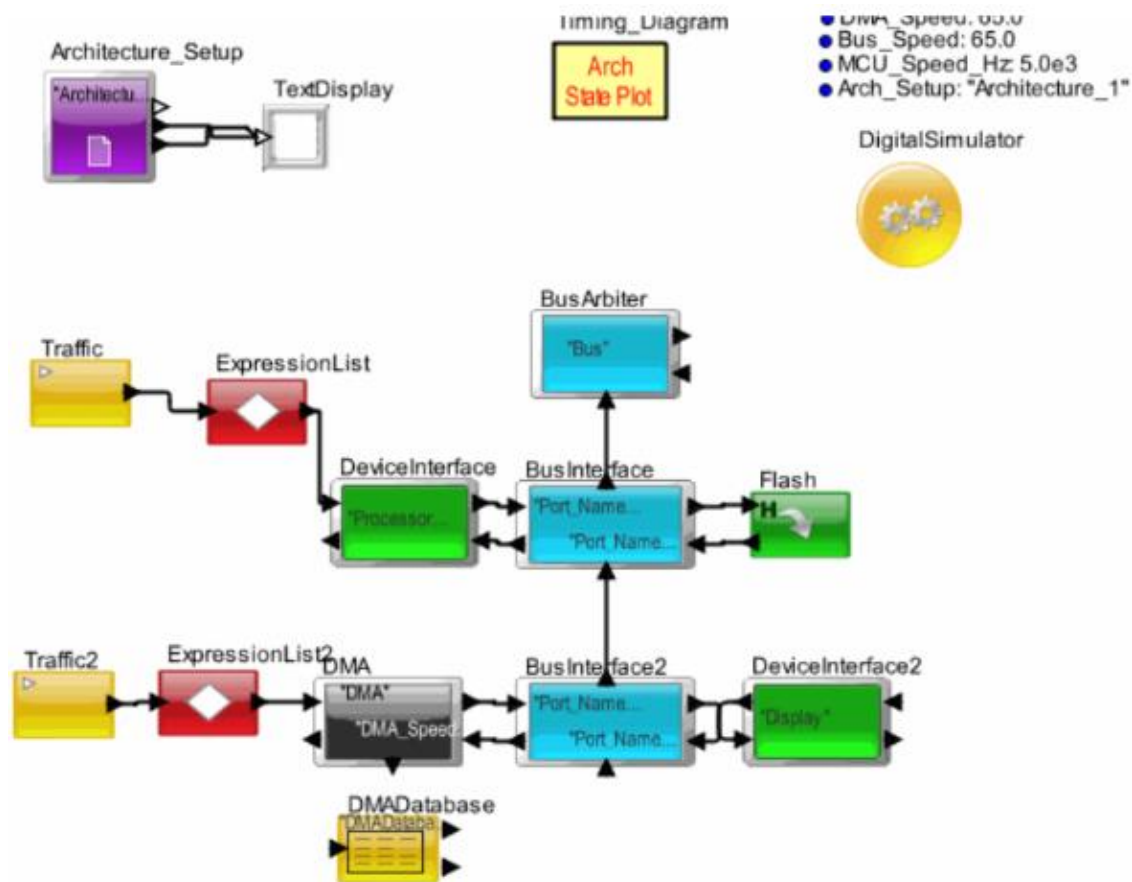
Table 7: Example 7 - Architecture Cache (4)

<b>Area</b>	Computer Architecture
<b>Topic</b>	Architecture Cache
<b>Description</b>	Using the „Architecture cache“ module of the Mirabilis VisualSim software package demonstrate the link between the processor cache and the memory.  Source: <a href="https://www.mirabilisdesign.com/launchdemo/doc/Training_Material/Architecture/Processor/Basic_Processor_Model/architecture-memory.html">https://www.mirabilisdesign.com/launchdemo/doc/Training_Material/Architecture/Processor/Basic_Processor_Model/architecture-memory.html</a> (Scheme is shown in Table 6)

Table 8: Example 8 - Evaluate Flash From Different Memory Vendors By Varying Standard Flash Parameters (4)

<b>Area</b>	Computer Architecture
<b>Topic</b>	Evaluate Flash From Different Memory Vendors By Varying Standard Flash Parameters
<b>Description</b>	Using the Mirabilis VisualSim software package build Flash memory model which can be used to construct NAND or SSD.

Picture 5: Evaluate Flash From Different Memory Vendors By Varying Standard Flash Parameters



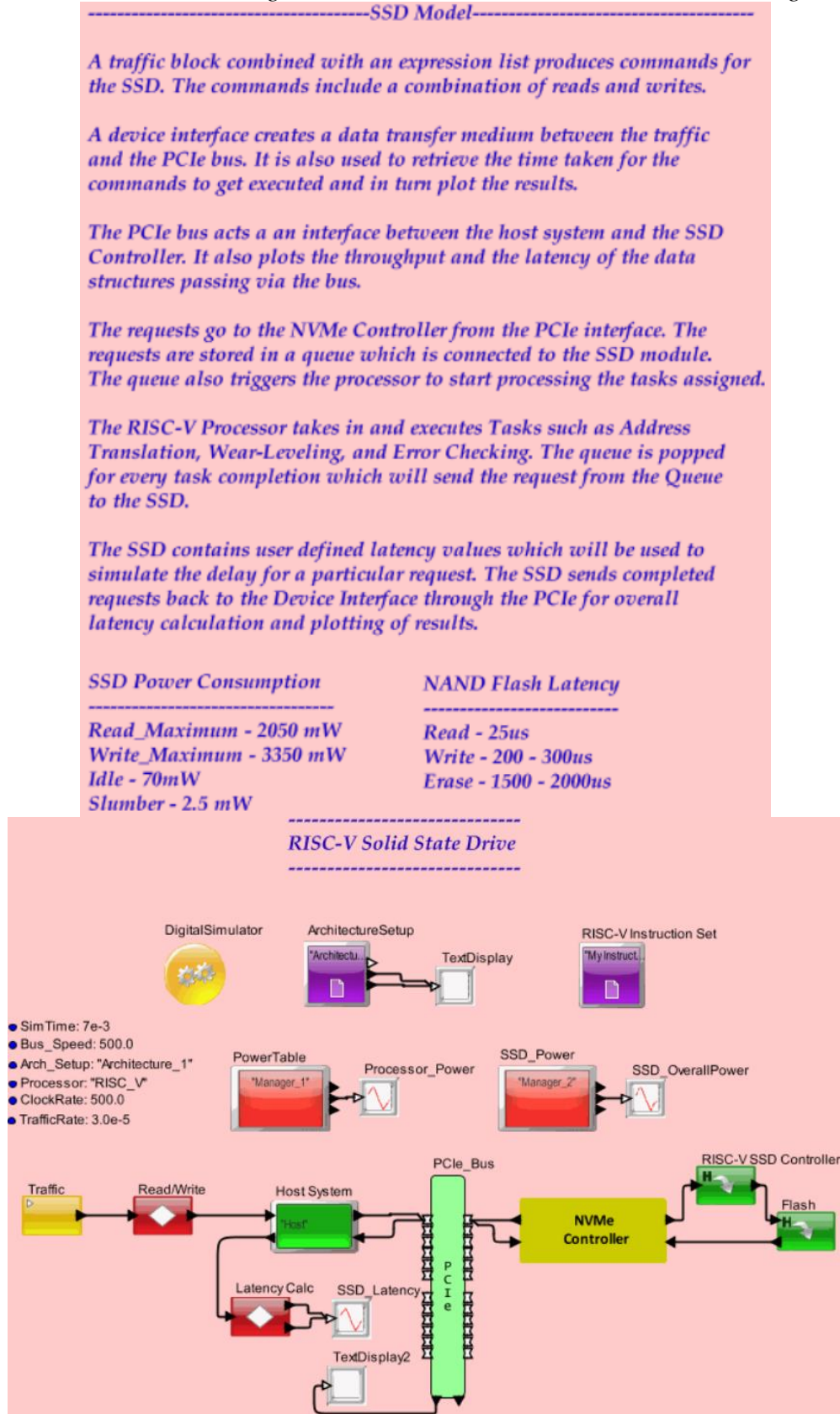
Source: [https://www.mirabilisdesign.com/launchdemo/demo/HAL/Flash/Flash\\_Ctrl/](https://www.mirabilisdesign.com/launchdemo/demo/HAL/Flash/Flash_Ctrl/)

Table 9: Example 9 - SSD Using Generic Flash And A RISC-V For Processing (4)

<b>Area</b>	Computer Architecture
<b>Topic</b>	SSD Using A Generic Flash And A RISC-V For Processing
<b>Description</b>	Using the Mirabilis VisualSim software package demonstrate SSD architecture implementation with RISC-V ISA implementation.

Picture following on the next page

Picture 6: SSD Using A Generic Flash And A RISC-V For Processing

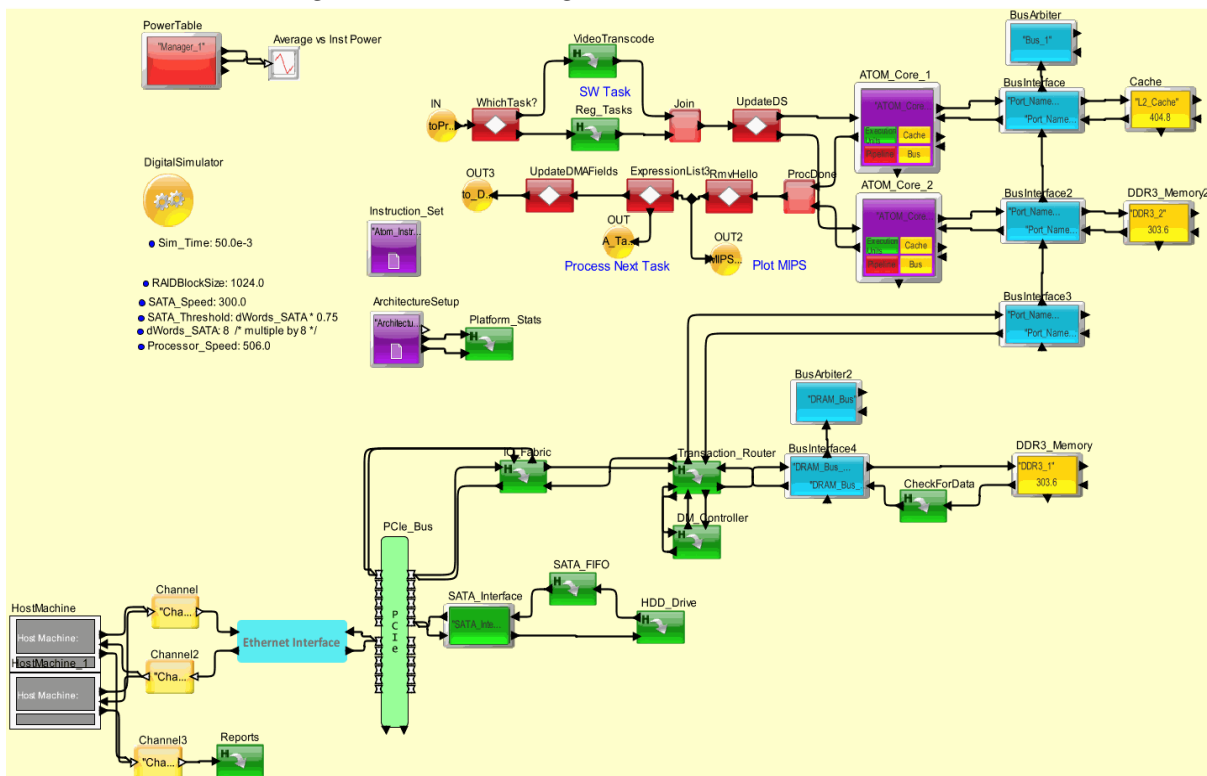


(Source: [https://www.mirabilisdesign.com/launchdemo/demo/system\\_architecture/SSD/SSD\\_RISC\\_V/](https://www.mirabilisdesign.com/launchdemo/demo/system_architecture/SSD/SSD_RISC_V/))

*Table 10: Example 10 - Modeling A Video Streaming Server That Is Stored On A Redundant NAS (4)*

<b>Area</b>	Computer Architecture
<b>Topic</b>	Modeling A Video Streaming Server That Is Stored On A Redundant NAS
<b>Description</b>	Using the Mirabilis VisualSim software package create a network attached storage (NAS) model. The model shall implement server for multimedia content storage. The model shows data flow in NAS environment and is used to select the optimal network topology and its components, reducing planning costs and equipment selection.

*Picture 7: Modeling A Video Streaming Server That Is Stored On A Redundant NAS*



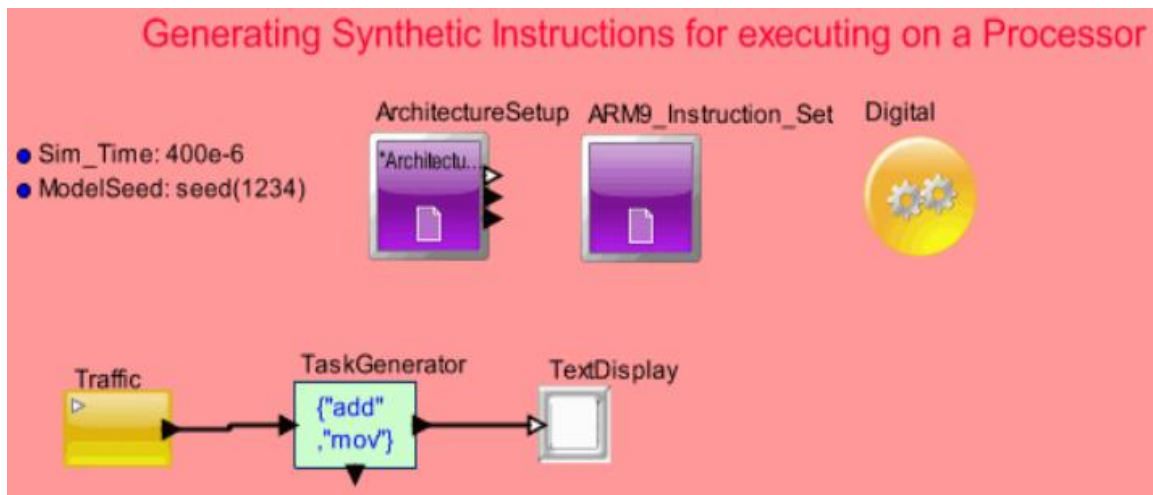
Source: [https://www.mirabilisdesign.com/launchdemo/demo/system\\_architecture/NAS/NAS\\_Server\\_Read\\_Write\\_v3\\_Nodes/](https://www.mirabilisdesign.com/launchdemo/demo/system_architecture/NAS/NAS_Server_Read_Write_v3_Nodes/)

*Table 11: Example 11 - Generates A Stream Of Instructions Based On A Profile Of An Application (4)*

<b>Area</b>	Operating systems
<b>Topic</b>	Task generator
<b>Description</b>	Using the softgen blocks of the Mirabilis VisualSim software package demonstrate generation of the processor's synthetic instructions.  Outcome of the exercise is familiarizing the students with the project research phase when software or model of desired processor is not available, or components are too expensive for building the prototype.



Picture 8: Generates A Stream Of Instructions Based On A Profile Of An Application

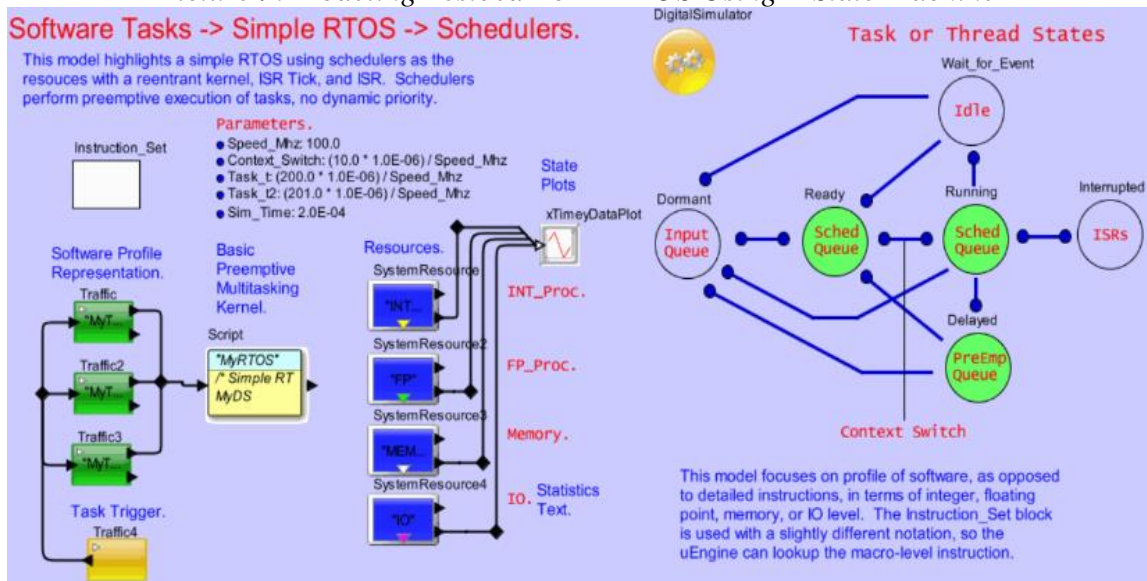


Source: [https://www.mirabilisdesign.com/launchdemo/doc/Training\\_Material/Architecture/Software\\_Generation/Generating\\_Synthetic\\_Instructions/](https://www.mirabilisdesign.com/launchdemo/doc/Training_Material/Architecture/Software_Generation/Generating_Synthetic_Instructions/)

Table 12: Example 12 - Modeling Testbed For A RTOS Using A State Machine (4)

<b>Area</b>	Operating systems
<b>Topic</b>	RTOS Generator: Modeling Testbed For A RTOS Using A State Machine
<b>Description</b>	<p>Using Mirabilis VisualSim software package create a test sample for RTOS. From software documentation:</p> <p>"This model highlights a simple RTOS using schedulers as the resources with a reentrant kernel, ISR Tick, and ISR. Schedulers perform preemptive execution of tasks, no dynamic priority.</p> <p>This model focuses on profile of software, as opposed to detailed instructions, in terms of integer, floating point, memory, or IO level. The Instruction_Set block is used with a slightly different notation, so the uEngine can lookup the macro-level instruction."</p>

Picture 9: Modeling Testbed For A RTOS Using A State Machine



Source: [https://www.mirabilisdesign.com/launchdemo/demo/HAL/RTOS/RTOS\\_base\\_model/](https://www.mirabilisdesign.com/launchdemo/demo/HAL/RTOS/RTOS_base_model/)

## 6. CONCLUSION

Education process in the field of computer engineering should address, besides acquiring knowledge and skills for design, also innovation and creativity even to the students of the first year. Tools that enable Top down design process seems to be very applicable for student projects as they hide lot of details and enable student to vary parameters in an easy to explore manner, so that student can focus on the main goals: to meet the engineering request proposing different approaches. Top-down design tools enable student to explore early enough in design process if the design meets requirements. VISUALSIM seems to enable student creativity, innovation in various fields, like Computer Architecture, Operating systems, communication networks, IoT application. As an example students can first plan hardware/ software partitioning, Digital system building block fine tuning, power consumption planning, network packet switching, basic construction of routing tables, find out how their early decisions resulted in hit or miss target and through the iteration process achieve the defined goals.

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## LOAN SUBSIDIZATION AS A MEASURE OF RESIDENTIAL POLICY IN YEAR 2017/2018 IN THE REPUBLIC OF CROATIA

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### ABSTRACT

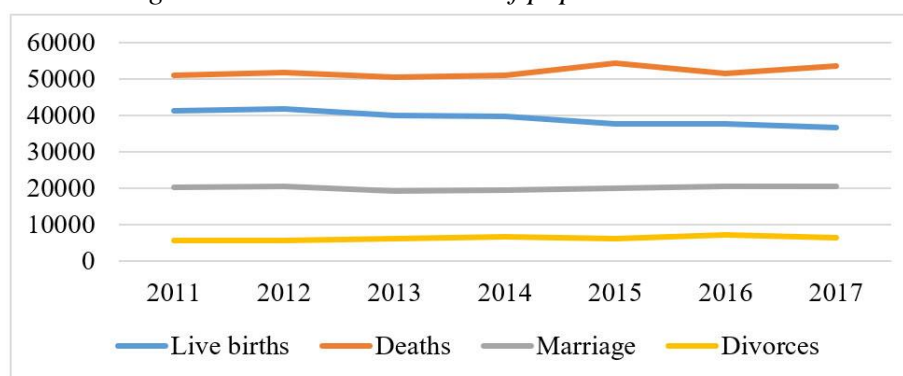
*In order to achieve demographic renewal of the society, urban regeneration of settlements and reduction of youth evictions and assistance to citizens, in June 2017, the Croatian Parliament passed the Law on Subsidizing Residential Loans. The Law regulates the subsidization of home loans for the purchase of an apartment or house and the construction of a house to resolve residential problems. A citizen of the Republic of Croatia can take a house loan from a credit institution, and part of the monthly instalments are subsidized by budgetary funds. The paper outlines the conditions set out in the Law of Subsidizing Residential Loans, as well as the differences in the Law comparing Year 2017 and 2018. In order to show the overall coverage and performance of the Law, the paper provides data such as the number of total subsidized loans per year, the average effective interest rate used and the average amount of residential loans. The aim of the paper is to prove the success of the Law in terms of savings for the citizens of the Republic of Croatia. The aim of the research is to show the interest of the citizens of the Republic of Croatia in the realization of subsidized loans, which results in an increase in the purchase of the apartments/houses and construction for the purpose of staying in their homeland. As it is a new model that has just come to life in 2017, it is questionable to what extent it has contributed to reducing the displacement of young people from their homeland. Subsidizing residential loans in the Republic of Croatia is welcomed by citizens regardless of whether they are buyers or sellers. Number of loans applications submitter in year 2017 and the increase in interest in 2018 is the evidence for cited.*

**Keywords:** APN, Law on Subsidizing Residential Loans, Subsidized loans

### 1. INTRODUCTION

Croatian Bureau of Statistics publishes data on population movements on its website. The natural movement of the population has been researched, ie the number of live births, deaths and the number of marriages (<https://www.dzs.hr/>). The data below is shown in Figure 1.

*Figure 1: Natural movement of population in Croatia*

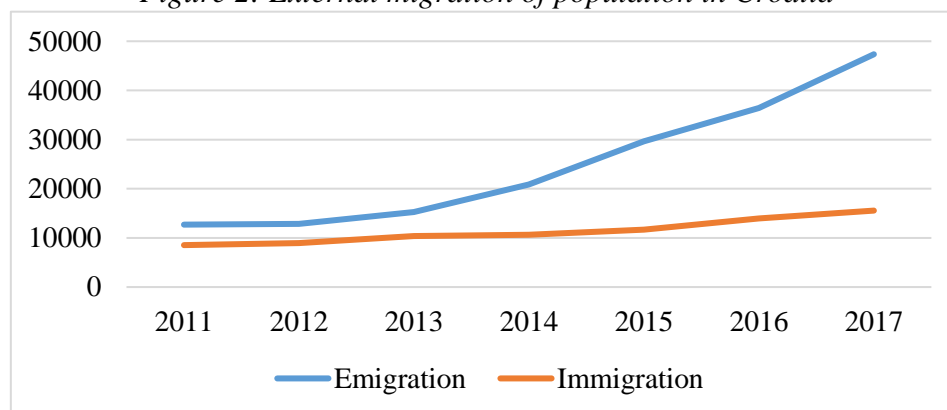


*Source: Croatian Bureau of Statistics*



Year after year, the number of deaths is increasing relative to the number of live births. In 2011, the difference between deaths and live births was 9,822 persons, while by 2017 the difference increased to 16,921 persons, representing a difference of 72.27%. Furthermore, an increase in the number of divorces is evident, with the highest number recorded in 2016.

*Figure 2: External migration of population in Croatia*



*Source: Croatian Bureau of Statistics*

From 2011 to 2017, there has been an increase in the number of emigrants and immigrants. Figure 2 shows that more people emigrated from Croatia than immigrated. The difference in 2011 was 4,165, while the difference in 2017 was 31,799. The largest number of people emigrated to Germany. In order to reduce the emigration of families abroad and stimulate demographic reconstruction of the society, the Croatian Parliament passed a decision to proclaim a law on subsidizing residential loans. The Law on Subsidizing Residential Loans was passed at the session of the Croatian Parliament on 30th June 2017. A similar law on residential subsidy and state guarantee was adopted on 4th of March, 2011 ([https://narodne-novine.nn.hr/clanci/sluzbeni/2011\\_03\\_31\\_678.html](https://narodne-novine.nn.hr/clanci/sluzbeni/2011_03_31_678.html), 10.04.2019). The law was not passed because of the eviction of young families, but primarily because of the unfavorable situation in housing. The subsidies were intended for citizens who do not own an apartment or house and are not older than 45 years (<http://apn.hr/app/uploads/2017/12/annual-report-about-work-for-2012-year.pdf>). The paper presents the impact of the Law on Subsidizing Residential Loans on all participants and examines whether it is profitable to realize a home loan with a subsidy. One of the goals is to analyze the impact of the Law on the real estate market and the impact of subsidies on real estate prices. The need to buy real estate as well as to invest further in them has a positive impact on the construction sector. Demand for flats or homes is rising, and inventories of unsold flats in new construction are declining. Since there is an increase in demand, there is also an increase in prices. The paper uses secondary data, ie information available on the official websites of APN, the Croatian Bureau of Statistics and the Law on Subsidizing Residential Loans. The methods used in the paper are the descriptive method and the induction, deduction, statistical, and model comparison methods comparing the 2017 and 2018 credit models.

## **2. THE LAW ON SUBSIDIZING RESIDENTIAL LOANS**

The Law on Subsidizing Residential Loans (NN 65/17, 61/18) primarily seeks to stop the emigration of young families from Croatia and encourage demographic renewal of society. The law makes it easier for citizens to decide on resolving their residential issue (<https://www.zakon.hr/z/925/Zakon-o-subsivencioniranje-residential-loans>). The subsidies are intended for citizens who want to realize a home loan from various credit institutions in Croatia with the purpose of buying a house or an apartment or building a house.

Law enforcement is the responsibility of the Real Estate Agency (APN). APN was established by the Decree of the Government of the Republic of Croatia, and has the authority to buy or change real estate in the Republic of Croatia on its own behalf and for the account of the Republic of Croatia. APN is in charge of implementing various programs to meet residential needs and improve the quality of residential for Croatian citizens and improve construction (<http://apn.hr/o-nama/nadleznost>). The Agency publishes a public invitation every year from 2017 to 2020, on the basis of which citizens can request a subsidy, and the funds are provided from the state budget of the Republic of Croatia. The loan user must be domiciled in the Republic of Croatia, and the credit institution determines the creditworthiness. At the time of signing the loan application, the loan user must not be older than 45 years. The credit user, as well as his spouse, life partner or informal life partner, must not be owners of a home or apartment that is habitable. The price with VAT per square meter of the net usable area of an apartment or house may not exceed EUR 1,500.00 in HRK equivalent the middle exchange rate at the Central Bank. The subsidized loan must not exceed EUR 100,000.00 and the loan period may not be shorter than 15 years (NN 65/17, 61/18). Credit institutions are selected exclusively by Agency, and they conclude a contract with the Republic of Croatia which obliges them to comply with the Law and provide subsidized loans to citizens. Loans are subsidized by paying part of the monthly installment or annuity for the first five years, depending on the index of development of cities and community. Below the Table 3 shows eight groups and associated payout percentages.

*Table 1: List of groups*

GROUP	I.	II.	III.	IV.	V.	VI.	VII.	VIII.
PERCENTAGE	51%	48%	45%	42%	39%	36%	33%	30%

*Source: <http://apn.hr/app/uploads/2019/03/Provedba-subvencioniranja-stambenih-kredita-za-zahtjeve-zaprimljene-u-2018.-god..pdf>*

Table 1 shows that the percentages range from 30% to 51%, depending on the development index, the more developed the city / community, the smaller the percentage. The Law also states the permitted amount of the effective interest rate. The effective interest rate (EIR) on a subsidized loan in the first five years of repayment may not exceed 3.75% per annum. After the first five years of repayment have elapsed, the EIR may increase by no more than 10% over the next two years over the initial EIR. There is also the possibility of extending the duration of the subsidy, so if the loan user or household member is a person with a disability of at least 50%, the subsidy is extended by two years. Also, if the users family increases with either the birth or adoption of the child, the loan is further subsidized for two years per child. A citizen of the Republic of Croatia applies for a loan at a credit institution, and the application must be accompanied by all the documentation justifying the purpose of the loan. The credit institution shall decide within eight days whether all the conditions are fulfilled and forward the request with the documentation to Agency. The Subsidized Loan Agreement is concluded by the loan user, the selected Credit Institution and Agency on behalf of the Republic of Croatia. By signing the contract, the user undertakes to change residence within 30 days after taking possession of the apartment or house (NN 65/17, 61/18). The 2017 Law provides for subsidizing half of the monthly rate or annuity through the first four years of loan repayment. According the 2018 Law, subsidies are for the first five years of loan repayment, but at different percentages. Cities and communities are divided into eight groups according to the development index, with participation rates in monthly installments / annuities ranging from 30% to 51%.

## 2.1. Credit institutions

The Law on Subsidizing Residential Loans NN 65/17 was passed in 2017 and published in the National Newspaper. Agency conducted a public call on 5th of August 2017 and selected credit institutions. Ten credit institutions were selected.

*Table 2: List of credit institutions for Year 2017 and 2018*

CREDIT INSTITUTION	2017. godina		2018. godina	
	EIR FOR EUR	EIR FOR HRK	EIR FOR EUR	EUR FOR HRK
Hrvatska poštanska banka d.d.	3.04%	3.61%	3.12%	3.12%
Erste&Steiermarkische bank d.d.	3.33%-3.50%	3.47%-3.59%	3.33%-3.50%	3.47%-3.59%
Podravska banka d.d.	3.71%	3.71%	3.56%	3.56%
OTP banka d.d.	3.14%	3.56%	3.14%	3.39%
Zagrebačka banka d.d.	3.29%-3.47%	3.56%-3.67%	3.75%	3.75%
Privredna banka Zagreb d.d.	3.15%	3.35%	3.15%	3.35%
Splitska banka d.d.	3.14%	3.56%	3.19%	3.45%
Raiffeisen bank Austria d.d.	3.75%	3.75%	3.24%	3.24%
Karlovačka banka d.d.	3.29%	3.49%	3.29%	3.49%
Istarska kreditna banka Umag d.d.	3.66%	3.66%	3.35%	3.35%
Croatia banka d.d.	-	-	3.74%	3.74%
HPB – Stambena štedionica	-	-	3.58%	3.58%

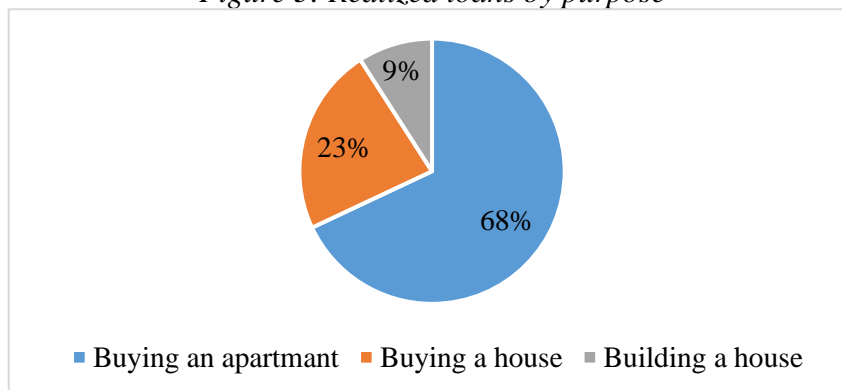
*Source: Authors creation according to Agency data*

From Table 2 is evident that some banks offered loans with the same EIR, while some rates were lowered or raised. For example, Raiffeisen bank Austria d.d. in 2017 offered loans with the highest EIR, and in 2018 reduced it for 0.51 percentage points. In 2018, Zagrebačka banka offered loans with the highest effective interest rate, up to 3.75%.

## 3. ANALYSIS OF RECEIVED REQUESTS

In 2017, 2399 applications for loan subsidy were received, and in 2018, 3033 were received. Out of the total number of applications received, 2314 were approved in 2017 and 2972 in 2018 (<http://apn.hr/subvencionirani-stambeni-kredit/provedba-subvencioniranja-stambenih-kredita-u-2017-i-2018-god>). In 2018, an increase of 26.34% of requests received was recorded, 97.99% were approved in the same year and 96.46% in 2017. The difference in received and approved requests is represented by rejected, canceled or terminated contracts. The purpose of loans is to buy and build, so figure 3 shows the number of realized loans by purpose in 2017 and 2018.

*Figure 3: Realized loans by purpose*



*Source: Authors creation according to Agency data*

According to the APN report, on March 2019, the most subsidies were realized for the purchase / construction of real estate in the City of Zagreb (the amount of 1767 in Years 2017 and 2018) and the least in Ličko-senjska County. Furthermore, according to the city or county development index, the most subsidies (3220) were in VIII. group, while the least were in group I. Also, according to Agency data, the most subsidies were approved and realized through Privredna banka Zagreb d.d., in total of 1759 applications. Considering the total number of approved applications, this represents a 33.28% share. As loan subsidy is also a measure to increase the birth rate in the Republic of Croatia, it is important to mention that in 2017 and 2018, a total of 517 applications were granted based on the birth or adoption of the children of the loan users, ie 9.78% of the families who realized the subsidized loan extended is the subsidy period. According to Agency data in 2017, the average life of a loan user was 35 years. The average amount of subsidized home loans was EUR 67,500, with an average repayment period of 20 years and an average EIR of 3.30%. The average monthly annuity or loan rate is 395 EUR, while the average monthly subsidized annuity or loan rate is 197,50 EUR. The average net usable area of the apartment purchased with a subsidized loan is 69 m<sup>2</sup>, at an average price of 1,160 EUR/m<sup>2</sup>. The average size of a house is 143 m<sup>2</sup>, at a price of 500 EUR/m<sup>2</sup>. The average size of the built house is 193m<sup>2</sup> at an average cost of 600 EUR/m<sup>2</sup> (<http://apn.hr/subvencionirani-stambeni-krediti/provedba-subvencioniranja-stambenih-kredita-u-2017-i-2018-god>). Compared to 2017, the average life of a loan user was 34 years. The average amount of subsidized residential loans amounted to EUR 66,600, with an average EIR of 3.20% and an average repayment period of 21 years. The average monthly annuity or loan installment was EUR 385, and the average monthly subsidized annuity or loan rate was EUR 125. The average net usable area of the purchased apartment was 68 m<sup>2</sup> at a price of 1,235 EUR/m<sup>2</sup>. The average size of the purchased house was 141m<sup>2</sup> at a cost of 490 EUR/m<sup>2</sup>, while the average size of the built house was 189m<sup>2</sup> at a price of 625 EUR/m<sup>2</sup> (<http://apn.hr/subvencionirani-stambeni-krediti/provedba-subvencioniranja-stambenih-kredita-u-2017-i-2018-god>). With the amendment to the Law in 2018, no more is subsidized 50% of the annuity/rate, but according to the percentage, depending on the development index of the city or county, according to Agency data, the highest percentage of loans (56.63%) was realized in VIII. group. Accordingly, the largest share of loans is subsidized with 30% annuity/rate. The initial subsidy period was extended from 4 to 5 years.

#### 4. COMPARISON OF REALIZED RESIDENTIAL LOANS WITH AND WITHOUT SUBSIDY

Average weighted interest rates on residential loans in 2016 in HRK amounted to 4.96% and in EUR 5.07% ([https://narodne-novine.nn.hr/clanci/sluzbeni/2019\\_01\\_1\\_26.html](https://narodne-novine.nn.hr/clanci/sluzbeni/2019_01_1_26.html)). The following is an example of calculating a residential loan at an average interest rate for 2016. Loan rates are denominated in HRK at the rate of EUR 1 = HRK 7.50.

*Table 3: Residential loan calculation in Year 2016*

LOAN CURRENCY	AMOUNT OF CREDIT	TERM OF CREDIT	INTEREST RATE	LOAN RATE
HRK	750,000	20 Years	4.96%	4,933.11
EUR	100,000	20 Years	5.07%	4,978.72

*Source: Authors processing*

The loan user, who raised the loan in HRK on 20 Year payment in 2016, he will pay off a total of HRK 433,946.40 in interest, and if he has realized it in EUR, then he will repay HRK 444,892.80 in interest. To calculate the difference in repaid interest, below is a residential loan calculation for the same amount and the same term, but with average interest rates on subsidized loans in Year 2017 and 2018.

*Table 4: Calculation of subsidized residential loan in Year 2017 and 2018*

AMOUNT OF CREDIT (20 YEARS)	INTEREST RATE (2017)	INTEREST RATE (2018)	LOAN RATE (2017)	LOAN RATE (2018)
EUR 100,000	3.30%	3.20%	4,273.01	4,234.97

*Source: Authors processing*

In table 4 is also used the exchange rate of EUR 1 = HRK 7.50 for easier comparison. A residential loan realized in 2017 as a part of subsidies, for the amount of EUR 100,000 for on a period of 20 years, will be paid a total of HRK 275,522.40 interest to the bank. For the same loan realized in 2018, the total of HRK 266,392.80 interest will be paid to the bank. In addition to the fact that subsidized loans were realized at significantly lower interest rates, so that the total repayment interest was lower, the savings that the loan users made by paying part of the monthly rate should be taken into account. For example, for the loan rate realized in 2017, for the period of the first four years of repayment, users pay HRK 2,136.50, which represents a saving of HRK 128,190.00. Savings for 2018 will vary depending on the percentage of subsidy according to the Urban and Municipal Development Index. With a subsidy of 30%, the loan rate will pay HRK 2,964.48 for the first five years. The difference between loans realized in 2016 and loans realized in 2017 and 2018 is significant. The bank will receive HRK 158,424.00 less interest for a residential loan realized in 2017, and HRK 167,553.60 less for a loan realized in 2018. The same loan amount for the same term will again be taken into account and the amounts of the residential loan rates for 2016, 2017 and 2018 calculated at average interest rates according to National bank data for HRK and EUR will be shown in tablet form. Table 5 shows the difference in rates and the difference in the amount of interest repaid per year for home loans that were not realized through subsidies.

*Table 5: Difference in realized loans in Year 2016, 2017 and 2018*

AMOUNT OF CREDIT	EUR 100,000	HRK 750,000
TERM OF CREDIT	20 YEARS	20 YEARS
INTEREST RATE (2016)	5.07%	4.96%
INTEREST RATE (2017)	4.62%	4.45%
INTEREST RATE (2018)	4.16%	4.16%
LOAN RATE (2016)	4,978.72	4,933.11
LOAN RATE (2017)	4,793.59	4,724.65
LOAN RATE (2018)	4,608.3	4,608.33

*Source: Authors processing*

The table shows a decrease in interest rates over the years. The loan user who realized a residential loan in 2018 to the amount of EUR 100,000 for a period of 20 years will pay HRK 355,999.20 interest to the bank, which is HRK 88,893.60 less than the same loan took in 2016, which is a decrease by 24.97%. It was already mentioned at the beginning of the paper that the minimum loan period is 15 years. A smaller loan amount is taken into account, HRK 250,000 for 10, 15 and 20 years. Stated will be shown in table 6 and the same interest rate will be used.

*Table 6: Comparison of realized loans with respect to the loan term*

TERM OF CREDIT	10 YEARS	15 YEARS	20 YEARS
AMOUNT OF CREDIT	250.000	250.000	250.000
INTEREST RATE	3,3%	3,3%	3,3%
HIGH OF THE RATE	2.448,79	1.762,75	1.424,34
INTEREST ON LOAN	56.145,20	67.295,00	91.841,60
SUBSIDY 30% (first 5 Years)	-	31.729,50	25.638,12
PAYMENT IN INTEREST	56.145,20	35.565,50	66.203,48

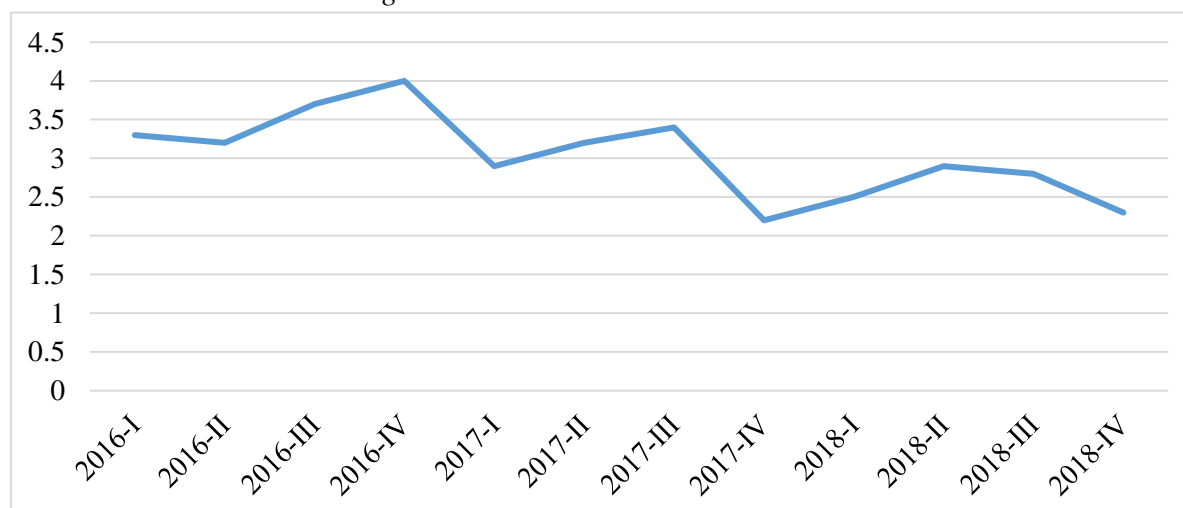
*Source: Authors processing*

Table 6 uses an interest rate of 3.3% to calculate the rate, which is the average interest rate used to realize subsidized loans. As it can be seen from the table, it is questionable whether the subsidized loan is profitable if it could be realized in the short term, according to the individual's creditworthiness. The loan, which is realized in the amount of HRK 250,000 for a period of 15 years, is payable in comparison with the loan in the regular offer of banks, which is realized for a period of 10 years. However, if the loan is realized in the long term, namely 20 years, it is evident from the table that the loan user will pay more interest to the bank, even with a subsidy, than that he realized the loan without a subsidy for a period of 10 years.

## 5. THE IMPACT OF SUBSIDIZED LOANS ON MACROECONOMIC INDICATORS

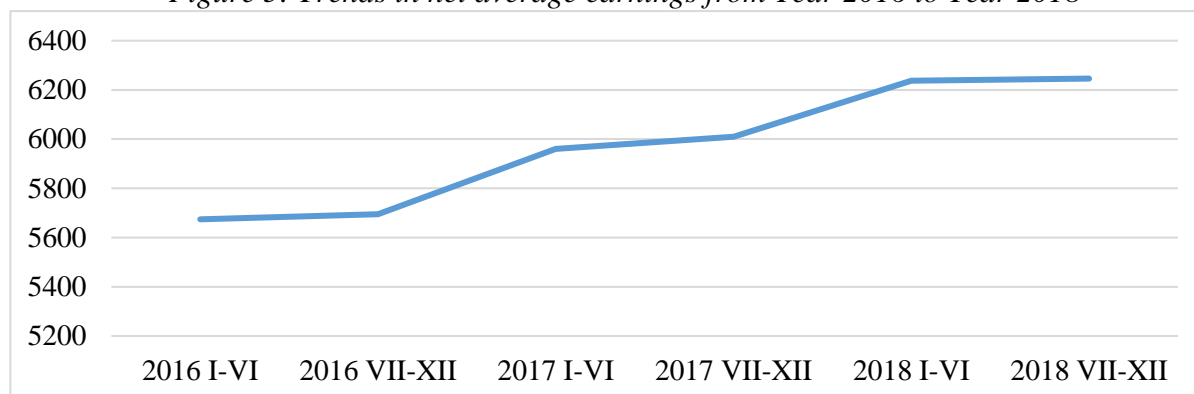
Trend sin macroeconomic indicators are the best representation of the country's current economic situation. According to the Real Estate Market, the BN index (price index of residential property prices in the Republic of Croatia) is up 3.02% in 2018. Also, it is stated that 2018 was the year in which prices have increased the most since 2008 (<https://www.burza-nekretnina.com/statistik>). The rise in real estate prices coincides with the growth of realized residential loans of banks caused by residential policy measures. The question is whether the state has created a positive or negative situation with its residential policy. The increase in prices will have a positive impact on banks that will lend to buy real estate because the loan amounts will be higher than they have been so far. The sellers are also looking positively at this situation, they will not have to adjust the required real estate prices due to the short term of the subsidy at the one-year level and because of the increased demand. This measure can be viewed by the buyer on the positive as well as on the negative side. The buyer is reduced to negotiating power because without the other option he will have to agree to the required price of the property. Then, once the loan subsidy deadline expires, he will be forced to pay a larger monthly rate than they would if real estate prices did not rise, ie. they would have to raise a larger home loan amount. The positive side of the residential policy for the buyer is the participation of the state in repayment of the loan. Rising real estate prices also affect GDP. Furthermore, Figure 4 shows GDP trends from the first quarter of 2016 to the last quarter of 2018, showing a decline in GDP in the last year.

Figure 4: GDP Year 2016 to Year 2018



Source: <https://www.dzs.hr/>, 07.05.2019.

The graph below shows the movement of net average earnings by half-year basis from 2016 to the end of 2018.

*Figure 5: Trends in net average earnings from Year 2016 to Year 2018*

Source: <https://www.dzs.hr/>, 20.05.2019.

An increase in the average net wage and an increase in disposable income for citizens is shown in Figure 5, which should result in an increase in personal consumption. Personal consumption has a major impact on GDP, and consequently on the country's economic growth. Looking at the movement of net average wages, there is a noticeable increase, but it stems from the fact that the state has a shortage of working age population due to emigration, but also a shortage of skilled labor in certain sectors. With the increase in net wages, personal consumption will also increase, which affects GDP. Also, citizens who have a higher salary will find it easier to decide on a loan to solve their residential problem. The biggest impact of subsidies is seen in the increase in real estate prices, which for the loan user, precisely those for which the measure was designed, has a negative impact.

## 6. RELATIONSHIP OF REAL ESTATE TAX AND SUBSIDY

From 1st of January 2019. The Real Estate Tax Law (NN 115716, 106/18) is in power, which provides in article 12 that the real estate tax is to be paid at the rate of 3%, and the basis for calculation is the market value of the real estate at the moment when the tax liability arises. Real estate transactions include any acquisition of ownership of real estate in Croatia (purchase, sale, exchange, inheritance, donation, etc.). Of course, a subsidized loan is for purchasing of an apartment or a house. Taxpayer is a person who is the buyer of real estate (the acquirer of the real estate) (<https://www.zakon.hr/z/69/Zakon-o-porezu-na-promet-nekretnina>). Until 31th of December 2016. The Real Estate Tax Act was paid at the of 5%, but there was also an exemption from payment. Citizens who acquired their first real estate on the basis of a purchase contract were exempt from tax, subject to several conditions. They had to be Croatian citizens, register their residence at that address, and the area of the property, depending on the number of immediate family members, should not exceed a certain area. Thus, one person was exempted from the purchase of real estate up to 50 m<sup>2</sup>, 2 persons up to 65 m<sup>2</sup>, 3 persons up to 80 m<sup>2</sup>, 4 persons up to 90 m<sup>2</sup>, 5 up to 100 m<sup>2</sup>, 6 up to 110 m<sup>2</sup> and up to 7 persons up to 120 m<sup>2</sup>. The purchased property could have been larger in size, but tax was paid at the time ([https://narodne-novine.nn.hr/clanci/sluzbeni/2011\\_02\\_22\\_452.html](https://narodne-novine.nn.hr/clanci/sluzbeni/2011_02_22_452.html)). In the period from 1st of January 2016 to 12th of December 2018 The Law on Real Estate Sales Tax was in power, according to which the tax was paid at the rate of 4% and with which the exemptions were abolished. As one measure aimed at young families who wanted to solve their residential issue, it was exempt from real estate sales taxes to buy their first property. The measure was abolished by the government, but the property tax was reduced twice. On the one hand, the Government is helps young families with subsidized loans and on the other is abolishing the tax exemption on first real estate. Real estates are sold/purchased throughout the year, not only through subsidized loans, and real estate sales tax is paid regardless of how the property is purchased.

## 7. CONCLUSION

The Law on subsidizing residential loans was enacted primarily to reduce the displacement of individuals and families abroad and to encourage demographic renewal of society. The subsidies are intended exclusively for citizens of the Republic of Croatia, and for the purpose of resolving residential issues. In 2017, the average loan savings for the loan user was EUR 9,229.92, while the following year it was EUR 6,539.40. As credit conditions have changed in the second year compared to the first year of study, so does the amount of savings considering the area in which the property is being purchased/built. A loan with a subsidy for a term of 15 years is more profitable than a loan that would be realized on regular terms for a period of 10 years, but a loan with a subsidy for a period of 20 years is no longer worthwhile by calculations. If the loan users have the credit ability to realize the loan in the short term, they should certainly be well informed with commercial banks which option is more favorable to them. The rise in net average wages in the Republic of Croatia results in increased personal consumption and ultimately GDP growth. Subsidies, as well as economic recovery, have the biggest impact on real estate prices and therefore on the real estate market itself. The situation can be viewed from the positive as well as the negative. Sellers do not have to adjust real estate prices as buyers lose their bargaining power because they want the sale to take place as quickly as possible due to the limited duration of subsidies. It is assumed that they will then have to realize a larger loan, so there is a danger of paying larger rates after the end of the subsidy period than would be the case if the loan amount was lower. The positive side for the buyer is certainly the participation of the state in the repayment of the loan, since savings, according to calculations, exist. The tax exemption was a residential policy measure, which was abolished before the Government launched a new measure. With the abolition of tax exemptions, citizens who buy real estate are at a loss, despite the fact that there is currently a lower real estate tax rate. Buying and selling of real estate takes place throughout the year, not only during the loan subsidy, so citizens are withhold for most of the year because they cannot realize the loan through subsidies and pay taxes on the full purchase value. Given the positive and negative effects, citizens can make savings by realizing residential loans through subsidies, but they also need to be informed about the best options. It is necessary to request calculations from commercial banks in order to choose the most favorable option, since each loan is different in purpose, loan amount, loan term, interest rate and loaned real estate. Only in this way, loan subsidies will fulfill their task, which is primarily to help Croatian citizens.

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## THE IMPORTANCE OF IMPLIED EQUITY VALUE IN MULTIPLE MODELLING AND VALUATION STRUCTURING FOR THE BIGGEST CROATIAN CHOCOLATE CONFECTIONERY PRODUCER

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### ABSTRACT

*Financial framework within the scope of development activities in chocolate confectionery expands trends in consumer behaviour toward the financial decision-makers relevant for the product, price and purchasing power determination. Quality products mainly related to product innovation and proactive imitation attach barriers mostly in supply chain and sales. Adaptive solutions meet cost and price optimisation in terms of as many as four significantly-narrowed industrial indicators: employment, industrial production, retail sales and personal income. Taking into consideration the mentioned processes, the authors' analyse financial background and perspective of the largest Croatian chocolate confectionery producer - Kraš d.d. Current accent addresses the importance of valuation assets analysis while using the concepts of the time value of money. The authors' idea is promoting the implied equity value of assets in multiple modelling and valuation structuring as an answer to newly adapted concepts in the industry. The valid concept of discounted cash flow (DCF) model is seeking beneficiary outcomes in equity valuation. Moreover, in authors' opinion, it triggers the value of discounted terminal value (DTV), total enterprise value (TEV) and average value of equity (AVE). As per discussion, it provides modelling and valuation insights that render the reduction of net debt and growth in the multiplier of earnings before interest, taxes, depreciation and amortisation (EBITDA) for the case. Besides, the relevant findings are decent argument in assessing a current business without taking into consideration "war chess game". In the final part, the authors are summarising useful findings related to multiple modelling and valuation structuring in studies and business.*

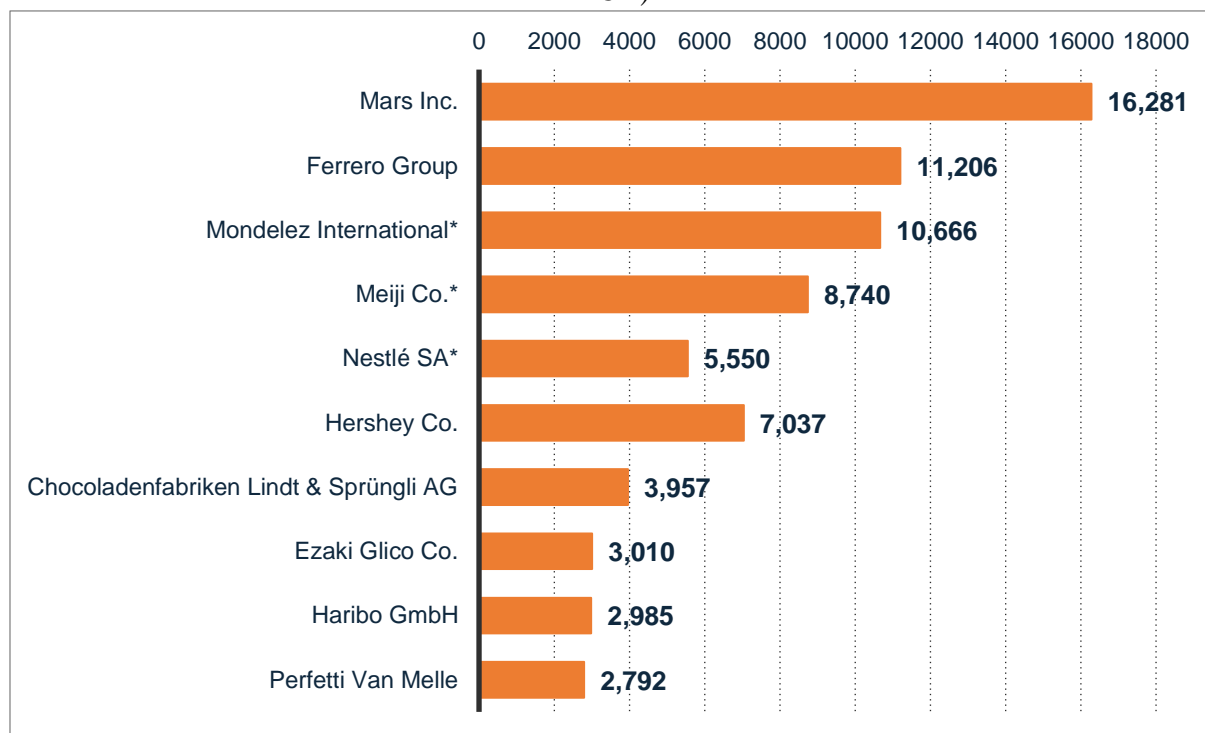
**Keywords:** *Discounted cash flow, Discounted terminal value, Implied enterprise value, Industrial indicators, Total enterprise value, Kraš d.d.*

### 1. INDUSTRIAL ACTIVITIES RELEVANT FOR THE MARKET GROWTH

Value creation standards and best practices for chocolate confectionery industry defined by the World Health Organisation (WHO) derives the beneficiary effect on human health. Scope of development activities related to specific financial appraisal encompasses comparative advantage in the intra-industry relationship relevant for revenue growth in margins in absolute and relative terms. Key product types, distribution channels and financial coordination achieved by industrial activities are significant for revenue streams of exporters with higher added value on domestic and international markets (Pfoertsch & Chen, 2011). While having in mind that industrial activities strongly affect on joint outcomes in product, price and purchasing power determination, only financial indicators attach barriers and specificities in the confectionery

production. Nevertheless, the presence of numerous players fuels revenue growth (Figure 1) while gaining importance on health effects associated with production, consumption and export of dark chocolates along with the adoption of self-made chocolate spreads not restricted to any age (Mordorintelligence 2020).

*Figure 1: Net sales of the leading confectionery companies worldwide in 2018 (in million EUR)*



*Source: Candy Industry; 1 EUR= 1.10575 USD; 1 USD = 0.904360*

Given the effort to secure anchor to the stability of eminent confectionery producers, top priority in the forecasted period is a consolidated balance sheet, income statement and cash flow statement. Furthermore, if the stakeholders want to increase the size and value of their market share, they should nowcast plans and activities rather than using the forecast solutions. Forecasting, as a method analogue of guessing, delivers limited data that needs more time for incorporation into the industry strategy. Conversely, nowcasting identifies cause-effect mechanism and develops an investment strategy that monetises industrial production mechanism relevant for performance evaluating and benchmark developing (Schwendner, 2020). Besides, nowcasting contributes as direct activity of time series dynamics in production, which could result in increasing the size and value of the global chocolate market by EUR 34 billion in a six years period. This is a matter of future research aimed at exploring the financial nowcast in terms of liquidity conditions on the markets (Prado & Ph, 2020). Regardless of the said, future research could continue exploring the volatility in local currencies, retailers' earnings and industrial production of raw materials (Bland, 2018). We have already shown that broad implication of unified activities by financial markets - recognized in the performance model - represents key assumptions in the performance valuation process in an advisory. By taking this as learning through performing the process, the discussion part offers several recommendations relevant for identifying the most promising revenue streams. As final remark, the authors are defining a plan for confectionery industry process optimisation.

## 2. FINANCIAL INDICATORS AS PERFORMANCE INDICATORS IN DCF MODEL

Broader implication of available qualitative and quantitative cost-effective tools creates drivers for financial benchmarking model known as framework for discounted cash flow (DCF) model in a valid scenario concept for industry review and the stakeholders. More generally, the discounted cash flow model allows assessment of the risk-award model as driver for presenting value of risks associated with the ability to predict, handle and realise the growth (Haley, 2018). Built on authors' responsibility to explain multiple modelling in valuation, there are highlighted key indicators for the benefits of considering long-term perspective in discounted cash flow model while elaborating the power of weighted average cost of capital (WACC). The present findings confirm that the after-tax cost of debt delivers a benchmark for the actual cost of debt for its tax benefits in a valuation model (Table 1) for the case of the biggest domestic confectionery producer – Kraš d.d.

*Table 1: Historical DCF model for Kraš d.d.*

DISCOUNTED CASH FLOW (DCF)		
WACC		% of (D+E)
COD – Cost of debt	3,5%	
TR – Tax rate	18,0%	
Ater tax cost of debt = COD×(1-TR)	2,87%	43%
BC – Beta coefficient	1,09	
ERP – Exclusive risk premium	3,3%	
CSR – Company size risk	2,4%	
RFR – Risk-free rate	1,9%	
Cost of equity = RFR+BC×(ERP+CSR)	8,11%	57%
WACC	5,86%	
Perpetuity growth	2,0%	

*Source: Made by the authors in Excel*

The main conclusion that can be drawn is that tax rate in the Croatian tax system explains local economy propensity while referring to significantly-narrowed industrial indicators: employment, industrial production, retail sales and personal income. Conversely, the cost of equity represents the marketable compensation package in terms of minimum capital return requirements compared to the benchmark of the peers. Individual drivers for equity proportion indicate specific risks related to the contribution of a risk-free rate as country risk, beta coefficient as volatility of the security compared to the systematic risk of the market and risks associated to the company size, discount for lack of marketability and exclusive premium for diversification. As long as the mentioned indicators are below the double digit area, the business might deliver credible and promising results in terms of positive cashflows or cashouts to the investors. Payout potential in conditions of sustainable returns demonstrates the power of the weighted average cost of capital and its potential growth till perpetuity.

$$WACC = COD \times (1 - TR) \times \%(D + E) + COE \times \%(D + E) \quad (1)$$

The mentioned calculation represents several blended relations in terms of debt (D) and equity (E) allocation (1). The cost of debt results as actual cost of debt (COD) and applied tax rate (TR) relevant for the tax system where company dominantly operates. This indicator represents the after-tax cost of debt. On the other hand, the cost of equity (COE) elaborates the power of risk-free rate (RFR) and the company's beta coefficient (BC) along with the exclusive risk premium (ERP) and risks associated to the company size as lack of marketability (CSR). The conclusion follows casual consequential relationship as the fact that Kraš d.d. is a company listed on the regulated market (i.e. stock exchange) obliged to periodically provide and publish financial statements and analysis relevant for the shareholders and decision-makers in the industry. Broad implication of the present research in this paper shows drivers in the model that narrow the performance gap as a marker toward the benchmark while exposing different intellectual bent to performance improvements. These findings in the paper are applying best performance indicators as acceptable practices relevant to the authors' calculation of the discounted terminal value (DTV), total enterprise value (TEV) and the average equity value (AVE). Based on this chapter's elaboration dealing with performance indicators, in the following chapter the authors are proposing alternative strategies for targeted capital structure, net debt optimisation and growth of EBITDA multiplier in the discussion part.

### 3. TARGETED CAPITAL STRUCTURE FOR KRAŠ D.D. DCF MODEL

Targeted capital structure for Kraš d.d. represents decomposition of the reduced value of debt that follows the results and recommendations from the Group's Annual Report (2019) in terms of improving consolidation of the balance sheet. Despite the affirmative management board actions, global pandemic SARS-CoV2 along with price volatility and income disparity across the value chain, impacted on sector challenges (Voora, Bermúdez, & Larrea, 2019) and valuation techniques in the model (Table 2). The value of after-tax cost of debt in the model projects debt optimisation to the value HRK 120m.

*Table 2: Targeted capital structure for Kraš d.d.*

Targeted capital structure	
Cost of equity	80%
Value and after-tax cost of debt	20%
<b>WACC</b>	<b>5,66%</b>
Specific cost of equity	6,2%
Specific cost of debt	3,5%
<b>EBITDA multiplier</b>	<b>9</b>
Perpetuity growth	2%

*Source: Made by the authors in Excel*

The cost of equity in the targeted capital structure remains at HRK 480m. EBITDA multiple for regional confectionery producers with franchised stores distribution channels amounts to nine (RFQ Relativity of Microeconomy, 2020). In some cases, there are certain exceptions for EBITDA multiple calculations that depend on diversification of distribution channels of the chocolate confectionery producer. The other factors that also affect the EBITDA multiple incorporate specific risk of liquidity and currency risk based on the geographical location (region) where company dominantly operates. The cost of equity in the targeted capital model deploys an affordable financial structure. It helps the company to bridge long-term processes in supply chain management with long-term raw material contracts.

Present findings also confirm current market surpluses in the cocoa production. More generally, it reflects slowdown of the global economy while delivering credible indicators for a longer-term perspective (Foresight service for July, 2020). In terms of scenario analysis for targeted capital structure, the adjusted time value of the money as a discounted free cashflow yields beneficiary outcomes via perpetuity growth as one of the leading generators in valuing the terminal value (TV) and subcomponents (2).

$$TV = \frac{FCF_{t-1} \times (1 + \text{perpetuity growth})}{WACC - \text{perpetuity growth}} \quad (2)$$

Terminal value (TV) for the targeted capital structure model takes into consideration the free cash flow of the past period ( $FCF_{t-1}$ ) and the difference between the weighted average cost of capital (WACC) and perpetuity growth. While elaborating relations in the basic terminal value model, there is a shortlist of several approaches (Table 3) as potential methods for nowcasting in discounted terminal value. Optimally, these findings follow the multiplier approach via its EBITDA multiplier (9×). By using the perpetuity growth based on the available free cash flow, EBITDA multiplier (9×) and the determined weighted average cost, it is more user-friendly to estimate the Gordon growth model. Considered again, it assumes minimal growth inclined to the perpetuity growth in the targeted capital structure. From the authors' point of view, there are several models developed for analysing the beneficiary outcomes with a positive impact on income statement as reduction in variance of earnings that could increase the debt capacity and the value of equity in general (Synergy, 2005).

*Table 3: Selection and incorporation of relevant EBITDA multiplier for WACC and DTV calculation for Kraš d.d.*

Discount rate (WACC)	Discounted terminal value (DTV)		
	EBITDA multiplier (9×)	Perpetuity	Gordon's model (g=2%)
3,16%	951	2.796	6.249
3,66%	937	2.214	4.161
4,16%	924	1.902	3.047
4,66%	911	1.658	2.359
5,16%	898	1.462	1.893
<b>5,66%</b>	<b>885</b>	<b>1.301</b>	<b>1.559</b>
6,16%	873	1.168	1.308
6,66%	860	1.055	1.114
7,16%	848	959	960
7,66%	837	876	836
8,16%	825	803	733
8,66%	814	739	647

*Source: Made by the authors in Excel*

$$DTV = \frac{\text{Actual net debt} \times \text{EBITDA multiple}}{(1 + WACC)^{\text{number of monitored periods}}} \quad (3)$$

From the aspect of the different methods in calculations for monitored periods (three years, five years and ten years) actual net debt stabilizes at HRK 116m (free cash flow for 2019 is equal

to HRK 97m). This aspect of the research in paper suggested that growth of the equity side and risk premium potential (i.e. risk-free rate and company size risk) shows the best optimisation regarding the marketability and minority status. Relative significant changes that may not be undertaken in the case of discounted terminal value (DTV) for other weighted average costs of capital could mislead bystanders in terms of model validity and representativeness. As stated in the targeted capital structure, EBITDA multiplier (9×) represents a fair argument in valuing discount terminal enterprise value (3) to HRK 885m while referring to the position of the actual net debt and the weighted average cost of capital in three monitored periods (years). More generally, preferences for the targeted capital structure include post-acquisition factors that looking for additional arguments and benefits regardless of the limitations in performance from such inclusion (Flows, n.d.). In the next section the targeted capital structure will contribute to estimating the total enterprise value (TEV) and value of equity (VE) as a reference model to the implied enterprise value. As also recommended above, the targeted structure model will show the potential outcomes through an increase of EBITDA.

#### **4. COST SYNERGIES RELEVANT FOR THE PREMIUM IN TARGETED STRUCTURE MODEL**

According to the best practices in the industry, saving gluts compares varying levels of debt and overall economic value as a potential for achieving a comparative advantage in the distribution channels (Platt, Demirkan, & Platt, 2010). Moreover, according to Damodaran (2005), this could be the most compelling argument when defining the perpetuity growth in the terminal value of an enterprise (Lazarevski, Karadaza, Karadaza, & Anastasovska, 2013). This conclusion follows from the fact that acquisition price of the targeted company depends on the book value of equity of the targeted company and market price of the targeted company prior to the acquisition. In that case, cost synergies stand for the set of synergies that follows financial synergies, valuing operating synergies and control premium (Synergy, 2005). On the other hand, broadly translated findings indicate the concept of different discounts rates in terms of weighted average cost of capital while representing alternative proceedings, which cannot be an optimal solution for the initial capital structure. On top of the projected results, stronghold position in the total enterprise value (TEV) enriches Kraš d.d. takeover potential in terms of acquisition premium that might be payable in the case of acquisition (4).

$$\text{TEV} = \text{Historical EV} + \text{DTV (EBITDA multiplier (9} \times \text{))} + \text{Acquisiton premium (4)}$$

To be more precise while explaining variables in the model, historical enterprise value (HEV) counts net present value of free cash flows for the period from 2017 till 2019 (HRK 167m, HRK 98m and HRK 97m). This aspect of research helps the authors recognize current challenges on the global market initiated by SARS-CoV2 as eroding phenomena of total enterprise value in the amount of HRK 1213m (for EBITDA multiplier 9×; Table 4).

*Table following on the next page*

*Table 4: Selection and incorporation of relevant EBITDA multiplier for WACC and TEV calculation for Kraš d.d.*

Discount rate (WACC)	Historical enterprise value (2017-2019) (HEV)	Total enterprise value (TEV)		
		EBITDA multiplier (9x)	Perpetuity	Gordon's model (g=2%)
3,16%	342	1.293	3.138	6.591
3,66%	339	1.277	2.554	4.500
4,16%	336	1.260	2.238	3.384
4,66%	334	1.244	1.991	2.692
5,16%	331	1.229	1.793	2.224
<b>5,66%</b>	<b>328</b>	<b>1.213</b>	<b>1.629</b>	<b>1.887</b>
6,16%	325	1.198	1.493	1.634
6,66%	323	1.183	1.378	1.437
7,16%	320	1.168	1.279	1.280
7,66%	317	1.154	1.193	1.153
8,16%	315	1.140	1.118	1.048
8,66%	312	1.126	1.052	960

*Source: Made by the authors in Excel*

In table 4, perpetuity growth and Gordon's model offer limitations in growth approach for five and ten consecutive periods (as in table 3). From the current position, it is hard to validate these two options in terms of ignored tax implications of potential corporate actions through dividend payouts or buybacks. To our knowledge, the main limitation in total enterprise structure value could be the first option for value of equity optimisation in the targeted capital structure. Beneficiary outcomes of the value equity (VE) model are presented through decrease in net debt.

$$VE = TEV - \text{net debt in HRK m (5)}$$

*Table 5: Selection and incorporation of relevant EBITDA multiplier for WACC, VE and AVE calculation for Kraš d.d.*

Discount rate (WACC)	Value of equity (VE)			Average value of equity (AVE)
	EBITDA multiplier (9x)	Perpetuity	Gordon's model (g=2%)	
3,16%	1.155	3.000	6.453	3.536
3,66%	1.139	2.416	4.362	2.639
4,16%	1.122	2.100	3.246	2.156
4,66%	1.106	1.853	2.554	1.838
5,16%	1.091	1.655	2.086	1.610
<b>5,66%</b>	<b>1.075</b>	<b>1.491</b>	<b>1.749</b>	<b>1.438</b>
6,16%	1.060	1.355	1.496	1.304
6,66%	1.045	1.240	1.299	1.195
7,16%	1.030	1.141	1.142	1.104
7,66%	1.016	1.055	1.015	1.029
8,16%	1.002	980	910	964
8,66%	988	914	822	908

*Source: Made by the authors in Excel*



Results of this model (5) can be understood as an argument for calculating the implied enterprise value as a multiplier of historical EBITDA, relevant to the benchmark in terms of the value of equity (VE) and the average value of equity (AVE). The average value of equity in the model (Table 5) stands for targeted WACC (5,66%) distribution in the calculation of weighted average sums of EBITDA multiplier (9×), perpetuity growth and Gordon's model. In our case, the net debt of HRK 138m at 31st December 2019 targets the average value of equity (AVE) in the amount of HRK 1438m. The authors believe that apart from looking for the most suitable targeted capital structure, one should focus on improving the performance indicators that narrow the growth of EBITDA multiplier. In the discussion, the authors are proposing activities aimed at strengthening the position of implied enterprise value as multiplier of the current EBITDA in the model.

## 5. SHORT DISCUSSION OF VALUE DRIVERS FOR TARGETED CAPITAL STRUCTURE

Given the fact that the targeted structure model sets the weighted average cost of capital for the implied enterprise value (IEV), saving gluts provide stabile growth of EBITDA multiplier by 37% to 10.5× (Table 6) when comparing the discounted terminal value in the forecasted period. It is a result of balanced measures (HRK 138m) that empowers the equity side of the model by 40% when comparing to the initial DCF model. To get a clearer picture of implied enterprise value (IEV) calculation, the following is corresponding formula (6) in which the total enterprise value (TEV) is divided by the actual net debt.

$$\text{Implied EV} = \frac{\text{TEV}}{\text{Actual net debt}} \quad (6)$$

Table 6: Selection and incorporation of relevant EBITDA multiplier for implied enterprise value (IEV) as multiplier of EBITDA from 2019 for Kraš d.d.

Discount rate (WACC)	Implied enterprise value (IEV) as a multiplier of EBITDA from 2019		
	EBITDA multiplier (9×)	Perpetuity	Gordon's model (g=2%)
3,16%	11,1	27,1	56,8
3,66%	11,0	22,0	38,8
4,16%	10,9	19,3	29,2
4,66%	10,7	17,2	23,2
5,16%	10,6	15,5	19,2
<b>5,66%</b>	<b>10,5</b>	<b>14,0</b>	<b>16,3</b>
6,16%	10,3	12,9	14,1
6,66%	10,2	11,9	12,4
7,16%	10,1	11,0	11,0
7,66%	9,9	10,3	9,9
8,16%	9,8	9,6	9,0
8,66%	9,7	9,1	8,3

Source: Made by the authors in Excel

This result refers to the short-term measures that reduce risks associated with the company size as lack of marketability, liquidity currency and transparency. The average value of equity in the targeted structure model with its EBITDA multiplier 9× represents a scenario model where acquisition premium generates a value of discounted terminal value for 64%, total enterprise value for 19% and basic value of equity for 34%. These results provide basis for a structural sale of non-core tangible asset irrelevant for daily business operations in Kraš d.d. In conclusion, the authors are going to summarise all-important findings relevant to the targeted structure model as a DCF scenario model.

## 6. CONCLUSION

Kraš d.d., as a leading chocolate confectionery producer on the domestic market, defends the dominant position through the value of distribution channels and brand name on the international level. Multiple corporate actions should be taken from the perspective of optimisation in business operations between the stakeholders if pole position on the domestic confectionery market remains in status quo over the next couple of years. The initial step toward the sustainable scenario model analysis in the financial optimisation process recommends nowcasting activities related to the beneficiary outcomes in equity valuation. The authors' model defines key relations in the targeted capital structure by nowcasting the value of the premiums for discounted terminal value (DTV), total enterprise value (TEV) and the value of equity (VE). The main limitation of the model represent a free cash flow for three periods while referring to unchanged capital gain position in historical enterprise value (until 2017). The final calculation, as a result, explains potentially favourable outcomes in terms of multiple synergies mostly related to the utilisation of non-core tangible assets. Future studies could develop similar scenario models for testing the growth perspective in performance indicators for confectionery producers with established operations on the international markets.

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## IMPROVEMENT OF ACCOUNTING OF SHORT-TERM ASSETS

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### ABSTRACT

*The need to develop and improve accounting in the Republic of Azerbaijan is due to a number of external and internal factors. The country's accession to the ongoing and deepening economic integration in the world, the strengthening of foreign investment flows, the expansion of enterprises' relations with foreign companies, the improvement of accounting, reporting and analysis, and the development of international standards are external factors that determine adaptation. In the emerging single economic area, in international markets, it is the information provided by accounting, analysis, auditing and reporting. The formation of this information in a way that everyone can understand is consistent with the theoretical and methodological foundations of global accounting and reporting, including accounting, analysis and reporting on current assets. However, it is theoretically and practically incorrect to attribute the need to improve the accounting and analysis of current assets and bring them into line with international standards solely on external factors. The point is that the existing system of accounting, analysis and reporting in this area has certain shortcomings and deficiencies from a theoretical, methodological and practical point of view. In general, the current state of accounting, analysis and reporting of short-term assets does not fully correspond to the modern dynamics and characteristics of a market economy, and its development. Thus, it becomes an objective necessity to conduct a comprehensive study of the current state of accounting, analysis and reporting of current assets in the country, to improve it and bring it in line with international standards.*

**Keywords:** Accounting, Short-term assets, Valuation

### 1. INTRODUCTION

Management of current assets, improving the efficiency of their use makes it necessary to have relevant information. Such information is generated through accounting and reporting, which are important elements of the market mechanism. However, the need for quality and quantity of information generated by accounting and reporting is changing over time. Objectively, this requires constant improvement of the accounting and reporting system itself. The accounting and reporting system is, in fact, adapted to the market mechanism, forms and methods of business management. However, the effective construction and operation of this system depends on the scientific, methodological and practical aspects of the correct disclosure, classification and evaluation of the objects studied, in particular, the short-term assets. The research convincingly proves that it is impossible to create an adequate accounting and reporting system for the short-term assets, without a proper understanding of their economic nature and function.

### 2. THE ECONOMIC CONTENT OF CURRENT ASSETS, CONCEPTUAL BASIS FOR THEIR CLASSIFICATION AND VALUATION

Proper identification of the nature and function of assets, including current assets, is important to increase the efficiency of their management mechanism. This is especially true of the organization of accounting, which forms information for management. In the organization of accounting and reporting of current assets, their correct and practical accuracy and assessment is no less important than the disclosure of the scientific nature of these assets.

However, the study of the economic content of assets in isolation from their classification is considered scientifically and theoretically ineffective. On the contrary, determining the nature and functions of current assets, the correct classification can create favorable conditions for determining the methodological basis of their accounting and reporting, the purposeful solution of a number of practical issues. In the economic literature, the classification and valuation of current assets are the subject of considerable research. This is natural, because the classification and valuation of these types of assets is a prerequisite for the organization and maintenance of their accounting. The accounting and reporting of current assets requires that they be grouped and systematized in a particular sequence. It is important to emphasize that the classification of current assets focuses on their composition and the role they play in the production process. I would like to note that the accepted composition of current assets is repeated in most economic and accounting literature. In other words, current assets are presented and interpreted in the same way. There is almost no disagreement among economists on the classification of current assets and their role in production. It is important to note that there is no significant discrepancy between the theory and practice of classifying short-term assets. However, it is necessary to dwell on the classification of current assets according to their composition. The point is that the classification features developed in our country allow the interpretation and analysis of short-term assets at the level of principles and standards adopted in international accounting and reporting practice. The economic-theoretical literature suggests that current assets include inventories, work in progress, finished goods, cash and cash equivalents. Many recently published accounting sources do not classify current assets as a whole, but only their individual types or components. Thus, in these sources, only objects of the labor and other tangible current assets are included in working resources. Cash and cash equivalents are not included in current assets by the authors of these textbooks. However, all these assets in the balance sheet constitute the sum of current assets. It is a known fact that in market conditions the composition of current assets expands and includes elements such as short-term securities and short-term loans to other legal entities and individuals. In fact, in many enterprises, especially in joint-stock companies, the amount and share of such current assets is constantly increasing. These current assets have nothing to do with production. If in the past the main feature of current assets was their transition from one form to another, now this feature is not decisive. This is because some types of current assets, such as cash, may not change their form when they bring income to an enterprise. It is known that current assets begin to circulate in the form of money, and then, depending on the activities of the enterprise, are transformed into another form (production stocks; work in progress; finished goods). However, in all cases, the main function of current assets is not to serve production or circulation, as some authors claim, but to generate a certain income. The transfer of current assets from one form to another does not have different functions. In this connection, it is scientifically impossible for economists to accept the idea that the productive form is more important in the asset cycle than the commodity or monetary form. Because, in fact, it means that production is superior to turnover. Concentration of the main part of current assets in production areas slows down the development of the circulation sphere, does not allow the study of demand, leads to the accumulation of large stocks of material stocks, work-in-progress and finished goods, and slows down the turnover of current assets. It should be noted that all economists emphasize that current assets, specifically their types of material resources, once participated in production, and at the same time transferred their value entirely to the cost of the product. However, the main aspect is that current assets generate income over time. It does not matter to an entity whether current assets are productive or commodity-based. These forms of existence are more like technical and organizational factors than economic reality. This is because the funds that were initially advanced in the form of money are returned to the form of money in the process of production, turning into those forms. It is only on the basis of this reality that the inventory of production is organized.

Current assets, the existence and movement of which are purely cash, do not need to be in those forms of existence. Thus, grouping by type of current assets in the process of operation of the enterprise does not seem necessary. Because they all play the same economic role in this process. The need to divide the assets into components in the accounting depends on the formation of information for their management, analysis and assessment of the property status of the enterprise. In some recently published literature, the classification of current assets is based on broader criteria. In other words, current assets in these sources are not only due to their composition, but also due to the form of existence, sources of operations, affiliation with the enterprise, level of liquidity and participation in various activities. Whether future expenses are attributable to liquid or illiquid current assets remains debatable. Deferred expenses are not included in any liquidity group. It is still unclear what this is all about. Some authors reflect the item "Deferred payment" in one of the liquidity groups of current assets and it is considered expedient to include it in the list of liquid current assets. We agree with the position of those authors that they include future expenses in liquid assets. The point is that all assets that are used in the activities of the enterprise have liquidity. If they are not used profitably and do not generate income, then their inclusion in the assets is not considered correct or meaningless. Deferred expenses are, in fact, the conversion of current assets into a productive form of money, and when they generate income. Our view is based on the theoretical premise that all assets reflected in an entity's balance sheet are, in fact, accounted for as an expense incurred by the entity. One of the most important elements of an asset management mechanism is their valuation. This is because without a scientifically-based valuation system, it is necessary to keep records of assets as a whole, including short-term assets that are part of them, and to report on them in a realistic, objective manner. and it is not possible to form accurate information. Going deeper, we can say that, in fact, it is impossible to keep records of the assets of the enterprise, as a whole, its economic and commercial activities without valuation. Valuation is one of the main principles and conditions of accounting, including the accounting of current assets. This principle has the same importance and meaning not only in our country, but also in the practice of international accounting. In the economic literature, some authors attribute the necessity and importance of this principle to many factors. Indeed, the necessity and importance of valuing an entity's assets is explained by various aspects of the entity's operations. All of these aspects make it necessary to make an assessment, because an assessment provides the necessary information about those events. It is known that making a profit is the primary goal of any enterprise. In order to make a profit, an enterprise acquires assets and uses them in certain areas and activities. The main function of assets is to generate income. Theoretically, it is clear that price is a monetary expression of newly created value. If profit is part of the newly created value, it means that the valuation of assets is necessary to measure the newly created value (profit). Therefore, the valuation of assets stems from the need to theoretically determine the amount of profit. Profit may not be realized yet, but it is important to quantify it in the abstract and to make future practical decisions. From a practical point of view, that is, from an accounting point of view, in order to calculate profit, it is first necessary to compare costs and revenues. In this case, his cost is capital that used to acquire the assets, the use of which brings income to the enterprise over a period of time. Hence, the value of the assets acquired as a result of the expenditure of that capital is equal to the amount of that capital or expenses expended. As mentioned, every business incurs costs to generate income and make a net profit. Thus, by comparing revenues with expenses, it is possible to determine the profit for each specific transaction. "Profit" is a concept that interests not only the company, but also other legal entities and individuals. They also have a certain interest in the profit and try to get a part of the profit when they invest in that enterprise. Of course, by investing their capital in an enterprise, investors not only secure their own interests, but also predict the sources of asset growth by determining profits.

However, the need to evaluate short-term assets is complemented only by the achievement of the above strategic goal. Valuation of assets is important for the solution of the following tasks:

1. Formation of necessary information in the financial statements of the enterprise;
2. Calculation of the real cost of the product (work and service) and formation of the pricing policy;
3. Determination of financial results and assessment of financial condition;
4. Correct determination of the basic indicator for the calculation of taxes;
5. Making the right decisions to regulate the issues of strategic development of the enterprise.

As can be seen, asset valuation is necessary both to assess past events and to identify current and future issues. Naturally, the approach to assessment from different angles necessitates the use of different assessment methods and techniques. In this regard, it is no coincidence that some of the views formed among economists and accountants in the field of asset valuation remain the subject of controversy today. Some of them prefer to value assets at cost, while others prefer to value them at current costs. The assessment based on the first option provides a better reflection of the company's past, while the assessment based on the second option creates favorable conditions for determining the company's development prospects.

### **3. EXISTING SYSTEM OF ACCOUNTING FOR NON-MONETARY CURRENT ASSETS AND ITS VALUATION**

As mentioned above, the system of classification and valuation of current assets applied in our country does not fully comply with international practice. This is especially true of non-monetary current assets. There is virtually no methodology or rules for accurate classification and valuation of non-monetary current assets in regulatory documents. First of all, not only in official documents, but also in scientific and practical works, statements and comments on the composition of non-monetary current assets are almost non-existent. In the chart of accounts for commercial organizations, the accounts that account for all types of inventories are placed in the section "Inventories". More precisely, the synthetic accounts intended for the accounting of all inventories are combined in that section. It is known that in the industry, material costs are grouped according to various characteristics. According to their functional role and purpose in the production process, material resources are divided into primary and secondary. It should be noted that in the organization of accounting in industrial enterprises it is very difficult to separate auxiliary materials from the main materials. In our opinion, such a situation can be explained by the fact that metals and other basic materials are often used as auxiliary materials in the production process. It is clear that the fuel specified in a separate position is considered an auxiliary material due to its real composition. However, in practice, given the macroeconomic importance of fuel, it is advisable to record it in a separate group of tangible assets. In general, material resources are classified according to their functional role and purpose in the production process into the following blocks:

- 1) Raw materials and supplies;
- 2) Purchased semi-finished products and components, constructions and details;
- 3) Fuel;
- 4) Containers and packaging materials;
- 5) Spare parts;
- 6) Other materials.

It should be noted that in accordance with the chart of accounts in the enterprise whose activities we studied, the accounting of each of the above groups is separated from the account 201 "Material inventories" and is organized on separate sub-accounts. At the same time, the block "Raw materials and supplies" includes "ferrous and non-ferrous metals, which are part of the

manufactured product and form its basis, other materials that are considered a necessary component for the production of products (works and services). The sub-account "Purchased semi-finished products and components, constructions and details" is used with the purpose of accounting for the supply of parts, assemblies and products purchased from other enterprises and used for picking finished products. The "Fuel" sub-account records fuel used for both technological purposes and household needs. By the way, it should be noted that energy costs include all types of purchased energy used for technological, propulsion, heating and other economic needs. In modern conditions, the correct classification of material resources in the industrial enterprises according to their functional role and technical properties in the production process has a direct impact on the effective organization of analytical and synthetic accounting. It is known that only the quantity of materials is kept in the warehouse of the enterprise, and in this case it is expedient to prepare accounting cards for each nomenclature number. The cases are transferred to the warehouse with the indication of the amount and registration of materials in the register and they are placed in the card file by nomenclature numbers. It should be noted that the records on the movement of materials on the cards are made by the responsible persons in the form of assortment and quantity in accordance with the primary documents. On a regular basis, but not later than one week, an employee of the material department of the accounting department shall ensure that the primary documents are properly drawn up and stored. Checks the completeness and accuracy of the entries in the assortment registration cards and certifies it with his signature. Only then does the warehouseman submit the income and expenditure documents to the register. In addition, it compiles a balance sheet for the 1st of each month, which includes the nomenclature number, name and quantity of each material, based on the data of the warehouse account, and submits it to the accounting department. It is clear that in the company's accounting, this list is used to compile balance sheets. In our opinion, the organization of accounting in this way leads to the connection between the accounting of materials by type and accounting. As can be seen, the information on the income and expenditure of materials in the industrial enterprises is first reflected in the warehouse records. It is known that income and expenditure documents are submitted by the warehouse together with the registers no later than the next day. At the same time, the workshops submit a second copy of the limit cards to the accounting department and they are reconciled with the documents obtained from the warehouses in the accounting of the enterprise. By the way, it should be noted that efficient management of material by type is essential for the prompt determination of stocks and the correct installation of the entire accounting system in enterprises. It is clear that the primary documents are properly checked at the time of entry from the warehouse to the accounting department and using modern technologies and communication they are grouped by nomenclature numbers, sources of income and directions of expenditure. In practice, analytical accounting of materials is carried out by their places of storage and responsible persons. Despite the existence of different options for analytical accounting of materials, the most advanced of these options is the method of operational accounting. When using this method, the accountant opens a schedule of material balances for a period of one year by months and reflects the natural balances of materials on the 1st of each month in accordance with the balance list. The accountant then multiplies the balances by the carrying amount and calculates the total amount of materials for each nomenclature number. In practice, the balance sheet is used to link the accounting of the amount in the warehouse with the accounting of the amount. In such circumstances, the main controlling moment is that the book value of the materials and the residual amount are equal to the balance of the synthetic account 201 "Material inventories". That is why, in order to have such a similarity in practice, a special register "Materials movement schedule" is kept in the form of a "journal-order" of accounting. It is clear that the discrepancies in the amounts indicate an error in the records and they are eliminated before the report is prepared.



As can be seen, this widespread version of the accounting of materials requires the consistent implementation of the principle of one-time recording, the centralization of the accounting of the movement of materials by species in the places where they are stored. In this case, the main methodological issues are the proper use of materials, the organization of systematic accounting control over their protection and the transformation of this control into daily, current and operational control. It is known that the efficient use of raw materials and supplies in the industry, in turn, contributes to the saving of raw materials, as well as the cost of production. It creates favorable conditions for the fall of implementation of operative control over the efficient use of materials in industrial enterprises through the documentation of deviations from the norm, batch registration and inventory. At the same time, it should be noted that other methods of accounting for the use of materials in production are widely used. For example, inventory method is used when it is impossible to cut materials or in cases where it is not considered expedient, it is applied in order to determine deviations from the norm by their types. When using this method, a systematic inventory of unused material residues is carried out at the beginning and end of each month. In this case, the balances at the beginning of the month are added to the materials received by the workshop during the month according to the initial documents, and the balances at the end of the month are subtracted from the final figure. Thus, as a result of calculations using the balance formula, it is possible to determine the amount of actual costs separately by type of material. These costs are then compared with the current norms, and the difference between them characterizes the deviations from the norm. In experience, sometimes material values are reflected in synthetic accounting at actual cost. In this case, the actual cost of materials means the sum of their purchase price and transportation costs. As a rule, transport and procurement costs in enterprises and organizations include:

- a) Tariffs for the carriage of goods by rail;
- b) The cost of transporting such materials to the warehouse and the maintenance of special procurement agencies;
- c) Losses due to spoilage of materials on the road;
- d) Maintenance costs of equipment.

In practice, as a rule, material assets are debited to production inventory accounts regardless of the place of entry, 431 "Long-term payables to suppliers and contractors", 531 "Short-term payables to suppliers and contractors", 202 "Production costs", 244 "Imprests" are reflected in the credit. Material assets received from suppliers and contractors (at actual cost) debit to account 201 "Material inventories" (on relevant sub-accounts) and credit to accounts 431 "Long-term payables to suppliers and contractors", 531 "Short-term payables to suppliers and contractors". If the workshop does not have its own warehouse, but is an object of accounting, then the material values released from the warehouse of the enterprise can be written off directly to the main production. At the end of the reporting month, production cost information is adjusted to the cost of raw materials and supplies not used in the workplace. When raw materials are released into production, the same amount is recorded on debit to the accounts 202 "Production costs", 731 "Other operating expenses", 711 "Commercial expenses", 721 "Administrative expenses" and on credit to the account 201 "Material Material inventories" (on the relevant sub-accounts). As it is known, the higher the value of wastes deducted from the cost of raw materials and consumables in the production process, the lower the cost of the main product (works and services). When these materials are received from the production workshops of the industrial enterprises (at the possible cost of use), the transaction is reflected in the debit of the account 201 "Material inventories" and in the credit of the account 202 "Production costs". It is clear that as a rule, deviations from the norm occur when using materials in the production process. In practice, deviations by type of material are grouped and analyzed accordingly using the methods discussed above.

In our opinion, each of these methods can be applied as an independent method in the enterprise, depending on the technology of production and the characteristics of the materials used. However, it is important to have a high level of planning, accounting and control in order to accurately group deviations from the use of materials using existing methods. It is known from theory and practice that deviations from the norm when materials are used in the production process are calculated in two ways:

- 1) Deviation in absolute terms;
- 2) Deviation in relative terms.

It is clear that each enterprise freely chooses the system of detection of deviations in accordance with the technology of production and the characteristics of the materials. Price, which does not depend on the activity of the enterprise and is considered a quality factor, ultimately has its effect on the quantity factor, or in other words, the norm factor. It is known that in order to calculate the deviation from the norm in absolute terms, it is necessary to compare the actual material consumption with the norm. If the deviation calculated as a result of the comparison is positive, then it shows the cost, if it is negative, it shows the savings. However, observations and research show that the procedure for calculating the relative deviation in the use of material resources is more complex and therefore a new aspect of its methodology. Usually, the calculation of the relative savings in the use of material resources is based on the actual amount of materials consumed during the reporting period to the volume of products (works and services) for that position. The adjusted plan indicator is deducted, and the negative difference shows the savings, and the positive difference - excess cost. Thus, as a result of comparing the actual costs with the normative costs, deviations from the norm are revealed, which are documented and recorded, the reasons for the occurrence and the reasons for the loss. are divided into groups according to their secrets. In our opinion, deviations from the norm on material costs are due to a number of factors, including the replacement of one type of material with another, non-compliance of imported materials with the requirements of certain standards. It may be due to inefficient use of heat and materials.

#### **4. METHODOLOGY OF ACCOUNTING FOR MONETARY CURRENT ASSETS**

Monetary current assets differ from non-monetary current assets in that they are used quickly to pay off current debt obligations. In other words, they have absolute liquidity or high liquidity. The portion of monetary current assets that has absolute liquidity usually consists of cash and cash equivalents. Highly liquid monetary assets include short-term securities, debts issued and receivables. Research shows that the methodology of accounting for cash and cash equivalents is entirely in line with international accounting rules and therefore does not require extensive research. But it is important to focus on some points. In Western countries, the cash account reflects both the funds in the firm's own funds and the money in bank accounts. The placement and control of funds owned or disposed of by the firm remain behind the scenes. In fact, it emphasizes the principle of economic approach, not the principle of legal approach to the property situation of the firm. In our country, the cashier is responsible for the cash on hand, and the bank is responsible for controlling the cash in the bank. This means that cash accounting is based more on legal principles. Legislation does not impose any restrictions on the use of funds in bank accounts, and in practice in some cases these requirements are not met. As a result, it is clear from the practice that there is a difference between keeping cash only in a bank and keeping it in the cashier's office and organizing it accordingly. It should be noted that the chart of accounts for commercial organizations does not provide for a separate account for cash investments, so the information on the use of funds directed to investments is not provided from a single source. The current situation in the field of accounting for amortization, which is the most important source of investment, is convincing evidence of this.

Thus, due to the lack of independent and systematic accounting of amortization deductions, which are currently a source of recovery of fixed assets and intangible assets, cash on these amortization deductions allowances arises from the sale of products (works, services). The cash income is included in the enterprise's bank account and is used for various purposes. In our opinion, in market conditions, it is important and exceptionally important to keep a systematic record of amortization deductions or cash amortization deductions. At present, only depreciation amounts are systematically reflected in accounting and reporting. It is wrong to equate depreciation with amortization. If depreciation characterizes the level of physical and moral depreciation of fixed assets over a period of time, amortization refers to the amount of the source of reproduction of those assets. There is no account in the existing chart of accounts to reflect the accrued or accumulated amortization in a separate account, and it is natural that it is not possible to generate relevant information on when and in what directions these resources will be spent. From the above, it can be concluded that the current methodology of cash accounting does not form the necessary information about the cash flows associated with the investment activities of the enterprise, and therefore the management and control of cash for investment activities is inefficient. The lack of systematic accounting for the availability and movement of cash for investment activities necessitates the preparation of a statement of cash flows, which is one of the most important forms of financial reporting. Such a report is necessary in Western countries, and such a report allows investors to forecast the cash flows of any firm. Unlike other types of assets, cash is recorded and reported at face value and does not include other valuations. Depreciation of the national currency or a decrease in purchasing power as a result of factors such as inflation are not reflected in accounting. Changes in the current value of non-monetary current assets, securities (nominal values of securities) and their impact on financial results are reflected in accounting and reporting. A certain part of cash flows in enterprises is reflected in the account 224 "Other bank accounts opened as required". This account is usually opened to solve specific problems. As can be seen, this account generates information about the availability and movement of funds in the company's letters of credit and checkbooks. In addition, account 224 emphasizes the availability and accounting of the amount and purpose of funds for targeted financing and targeted receipts. However, the methodology for accounting for such funds is not reflected in the comments on the application of the existing chart of accounts. As a result, it is not possible to generate the necessary information on cash flows for targeted financing and targeted inflows. It is clear from the instructions for the application of this account that in this account enterprises generate information on the cash flows of both basic and investment activities. Short-term financial investments are a highly liquid part of monetary current assets. Short-term investments are generally considered to be cash equivalents or their equivalents. Assets registered under this name are mainly short-term investments. It is clear that the use of funds allocated for investment is limited. In other words, such funds cannot be used as cash in cash and bank accounts. Any money whose use is restricted is called an investment. However, the existing regulations do not specify this. In the economic literature, cash for such transactions refers to financial activities. However, it is theoretically and practically incorrect to equate financial investments with purely cash (cash with no restrictions on its use). Under the heading "Short-term financial investments" are combined investments of the enterprise in securities of other enterprises, interest-bearing government bonds, as well as loans of the enterprise to other enterprises. As can be seen, short-term types of issue securities are recorded under the name of short-term financial investments, not debt securities. Unlike non-issue securities, short-term securities bring income to the enterprise, their nominal value does not change, and as a result, the financial results of the enterprise change. Therefore, in addition to the account that records the existence and movement of short-term securities, for the purpose of accounting for the financial results arising from their sale, as well as changes in the nominal price during circulation, account 801 "Gross profit (loss)" needs to

be used. If non-issue securities are reflected in the accounting and reporting only in nominal amounts, the issue securities may be reflected in the accounting and reporting in addition to the nominal value at the following prices:

- 1) Issue values with;
- 2) At market prices;
- 3) With cancellation values;
- 4) With repurchase prices;
- 5) At book value.

These values are applied in accounting and reporting depending on the form of existence and movement of securities in time and space. If the purchase price of these securities deviates from their nominal value, then this deviation is added to the nominal value of the securities. In our opinion, the methodology for accounting for the difference between the nominal value and the purchase price of short-term securities in the accounting and reporting, their existence and movement is not theoretically and methodologically perfect. As a result, it is not possible to obtain complete information on the investment activities of the enterprise. In addition to the above-mentioned shortcomings in the methodology of accounting for short-term securities, in our opinion, there is no such controversial issue. The same can be said of other types of short-term investments, such as deposits and loans. Research shows that the current methodology of accounting for deposits and loans meets modern requirements and the requirements of international standards. Only one aspect of the accounting of deposits and loans to other enterprises appears to be undeveloped. This is a matter of recording the interest on those deposits and loans. The current accounting and reporting system does not provide quality and reliable information on the formation of interest rates on deposits and loans and cash flows on interest. We are talking about information formed in synthetic accounting accounts. Such information cannot be obtained directly from these synthetic accounts without reference to the relevant accounting records.

## **5. CONSLUSION**

Thus, the following conclusions can be drawn from the above:

- 1) The methodology for accounting for non-monetary current assets has hardly changed in a market economy, and some minor changes have not found a wide place in practice;
- 2) The accounting system and rules inherited from the past determine the basic and methodological rules for keeping records of inventories, work in progress, expenses of future periods, finished products;
- 3) In the field of valuation, which is the basis for the accounting of non-monetary current assets, although the normative documents provide for alternative methods, their application mechanism has not been developed;
- 4) The existing system of analytical accounting of inventories and its connection with synthetic accounting is complex and inefficient;
- 5) There are no relevant interpretations and disclosures in normative documents and instructions on classification of monetary current assets. This is one of the reasons for some shortcomings in their accounting;
- 6) The current accounting procedure does not form accurate information on cash flows in the enterprise by type of activity (main activity, financial activity, investment activity), which does not allow external users to forecast cash flows, make appropriate management and financial decisions.

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# SOCIAL TENSION AND SOCIAL PROTESTS AS CONSEQUENCES OF COVID-19 PANDEMIC

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## **ABSTRACT**

*The paper contains a review of classical approaches to the definition of society, social tension, and social movements. Social movements, especially those that take the form of protest, are considered. Possible sources of data used for analyzing social tension and protest activity – results of social surveys and data from social networks. The concept of "society" in classical and modern science is multifaceted. Society is a system of relationships between people built in a certain way, the basis of which is the norms of morality and universal values. Within the framework of Marxist ideology as one of the leading paradigms of the 20th century, society is defined through the joint activity of people. In the research of the British anthropologist Bronislaw Malinowski, society is represented as a system that functions within the framework of activities aimed at individual needs satisfaction. This provokes the development of coordination skills and improved connections between people, which become especially strong during periods of severe shocks. Social tension is a multidimensional concept that reflects, among others, the degree of dissatisfaction of the population with socio-economic conditions of life, while the main "pain points" are a decrease in the standard of living, insufficient housing, labor conflicts, etc. Special attention is paid to the socio-economic consequences of the COVID-19 pandemic: job loss, reduced well-being, and inability to lead a previous, habitual lifestyle. Their danger lies in the potential reason for the growth of protest activity.*

**Keywords:** Society, Social Movements, Social Tension, Pandemic

## **1. INTRODUCTION**

Any society has a set of characteristics that determine stability or instability in time and space (within territories, on border territories, and in a global sense). One of these characteristics is the presence and intensity of social movements [1]. Social movements arise only in the presence of changes induced by the society itself and its members, and in the extremely negative case they are protests. At the same time, the activity of protest actions increases in the event of complex or potentially conflict situations and leads society out of a state of inertia. The work of Italian sociologists Donatella Della Porte and M. Diani [2, 3] outlines the main features of social movements: common values and solidarity.

## **2. STAGES OF SOCIAL MOVEMENTS**

All social movements go through several stages in their development [4]:

1. Appearance. At this stage, social movements have virtually no organization. The stage of occurrence is rather an expression of public discontent [5]. Possible actions of individuals at this stage: discussions of the situation with friends, complaints to local authorities, and others. The increase in discontent is due to the accumulation of negative information and increasing its coverage in the media. The easiest way to extinguish a growing conflict is at this stage;
2. Overgrowth. The stage of growth is characterized not only by an open manifestation of discontent, but also by its strengthening, as well as attempts to find or "assign" the culprit for the existing problems. According to [5], at this stage riots become apparent and acquire the character of an "epidemic". Mass rallies are held;

3. Bureaucratization. At this stage, social movements not only become controlled from within, but also acquire a development strategy. It is not enough to hold mass rallies alone, and social movements are coordinated with the help of qualified personnel. Requirements for social movements at the stage of bureaucratization – constant mobilization of new members, support for the necessary level of emotional excitement and, most importantly, the presence of coordinators. But these requirements are too high for some protest campaigns. This leads to their attenuation [6];
4. Decline. At the final stage of the existence of social movements, there is a decline in activity, which, however, does not always mean their destruction [7].

Since the 1990s of the twentieth century, research interest in the emergence of new forms of protest and the reasons for the growth of social tension in local territories has increased [8]. According to the results of the analysis of protest activity, the growth of which is caused by the struggle with the introduction of large social and socio-economic projects, these protests are limited in the context of the territory [9]. Each observed case of the most acute social protest is a demonstration of deviant behavior, in this case-a community of protest actions. These actions are aimed at supporting social changes that occur outside of historically and legally established social institutions [10].

### **3. PROTEST AND ITS DEPENDANCE ON SOCIAL DEVELOPMENT LEVEL**

It is not fair to assume that in economically developed countries the emergence of social movements in the form of protest is less likely than in undeveloped States. Economic stability and the refusal of the population to support radical movements are sometimes cited as reasons. However, recent events in several countries (France – "yellow vests", Spain – the demand for independence of Catalonia, the long-running protests in Hong Kong, and others) show the opposite. The reason is in the system of satisfying the needs of individuals. In developing, poor, and developing countries, basic survival needs are mostly met. The higher the level of socio-economic development of a country, the higher the degree of disunity within society due to the weakening of traditional values and aspirations. That is, in such cases, there is an increase in social imbalance-an anomaly [11]. According to the American sociologist Robert king Merton, members of unstable societies subject to anomie have similar social and personal traits. Thus, they consider themselves incapable of achieving their goals and are convinced that it is impossible to get support from state public institutions, since their leaders are indifferent to the life, opinion and aspirations of ordinary citizens [12]. The existence of serious contradictions between the goals that society sets for individuals and the legal ways to achieve them leads to a few serious consequences. Among them – the growth of social tension and extreme deviant behavior (crime, pogroms, terrorism, extremism, etc.) [13]. Thus, the emergence of social movements as a social phenomenon can be explained by several factors. Among them [14]:

- Economic (poverty, enrichment of a certain group of people against the background of growing differentiation of the population by income);
- Social and socio-demographic (age, gender, profession, etc.);
- Political (commitment to certain political parties and movements);
- Cultural and civilizational (the ability, desire, and desire of the population to actively change the conditions and way of life);
- Ideological (the presence and power of the main ideological direction that strengthens or restrains the growth of protest activity) and others.

There are several classes of social movements. The most radical among them are the revolutionary ones [15]. Their goal is to completely change the existing socio-political system. According to the "theory of revolution" developed by the American sociologist James Davis,

the onset of a state of sharp decline in society, replacing the state of prosperity and recovery, leads to revolutionary movements in society [16]. In other words, the protest is not caused by a lack of resources to meet needs, but by an increase in living requirements and a desire to further improve living conditions. Revolutions are riots in which one political group, which has a large public support, replaces another, which is "at the helm of power" at a time. Public sentiment is what determines the degree of political stability [17]. That is, according to James Davis, dissatisfaction with the financial situation is not a determining factor in the emergence of revolutionary moods. Hence, revolutionary sentiments can be supported by representatives of the poorest segments of the population, as well as by people with sufficient material resources [18]. Thus, the motivation to participate in the chain of successive protests, called the "Arab spring", was formed not only within the framework of perceptions of inequality and poverty, but also in the context of the opportunities available to elites and the population of countries affected by the wave of protest [19].

#### 4. PROTEST RESEARCH AND MODELLING

Currently, one of the main players in the formation and development of social protests is the mass media [20]. News, analytical and informational resources, as well as social networks [21], [22] - a base for strengthening protest activity, fueling interest in existing problems in society and openly discussed. The analysis of protest activity, social movements, and the level of social tension is related not only to analytical analysis of the current situation, but also to working with huge amounts of data [23]. An example of an information and analytical resource that accumulates news notes and other information in the world's media and social networks and provides comprehensive analytical tools is GDELT [24]. The GDELT database, created by Kalev Litaru, contains information about more than two hundred and fifty million events in all countries of the world since 1979. In 2017, another project of Kalev Litaru was presented, a destrometer-a measure of the level of socio-political tension in society [25]. Given the amount of information in the GDELT database and its like, supercomputer capacities are used for calculations. Some technical and methodological aspects of their application are given in [26]. We note several projects in the field of assessing the level of protest activity or revolutionary sentiments using supercomputer technologies:

1. Research performed at the Rensselaer Polytechnic Institute (USA), "Social consensus through the influence of committed minorities" ("Social consensus as a result of the influence of a convinced minority in society as a whole") in the study of the probability of regime change in several States. As a result, it is determined that only when the ten percent threshold of the number of supporters of an idea is exceeded, this idea will be dominant [27];
2. Under the leadership of Kalev Leetaru, the Nautilus supercomputer was used to analyze news feed data (more than a hundred million notes were studied in total). The study provides a forecast of increased protest activity in the States affected by the wave of the "Arab spring" [28];
3. The model of social risks implemented in the research Institute of high-tech computer technologies in 2011 at the facilities of the Lomonosov-2 supercomputers (Lomonosov Moscow state University) and Lobachevsky state University [29]. The model calculates a deviation from a pre-defined scenario to determine the depth of social problems. The project developers carry out daily monitoring of social networks about the proliferation of conflict or potential conflict situations. The former may include, for example, support and sympathy for terrorist organizations. The second category is the manifestation of growing discontent among the population in several key areas (for example, tariffs for housing and communal services, fuel costs, inflation, etc.);



4. The system developed to analyze complex social systems and possible responses [30]. In particular, the speed of dissemination of information in social networks and news that can potentially affect the growth of social tension is assessed. In addition, this model is used to assess the life cycle, stages of development and extinction of financial systems and criminal structures.

In addition to aggregated data from the media, the results of sociological surveys of the population are used to assess potentially "explosive" situations and conflicts. Thus, when analyzing the causes and consequences of the already mentioned chain of Arab spring protests, the state of the problem of illegal immigration of the population of the Middle East and North Africa to Europe, and other topical issues, the results of social monitoring by Arab Barometer and Eurobarometer, respectively, were used. The basis for the emergence of protest movements is a whole set of factors, including social, economic, political, and psychological aspects of human and social life. The COVID-19 coronavirus pandemic was a trigger that triggered not only an increase in panic over the pandemic spread of a previously unknown disease. The restrictive measures taken to implement in most countries of the world, the temporary suspension of international trade and the suspension of many enterprises, and, as a result, the decline in industrial energy consumption, combined with a sharp drop in the price of oil – these and other reasons have become factors that have induced crisis phenomena in the world economy, e.g. inflation growth and rising unemployment. Decrease in the purchasing power of income combined with a decrease in the amount of disposable income on the hands of the population, etc. These and other issues have the potential to have a large-scale protest potential that can involve many individuals in the movement.

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## IMPACT OF PLANNING IN NATIONAL PARKS ON NUMBER OF VISITORS – CASE STUDY NP KRKA

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### ABSTRACT

*National parks are an important tourist resource in any country. Croatia has eight national parks that are valuable natural heritage and often something that attracts visitors to visit a certain region. The paper will look into what national parks as public institutions are doing to increase the number of visitors and how does that reflect on the attractiveness of the park. Strategic planning is important in any business operation and it is equally important in managing natural resources such as a national park. The national park Krka, located in Šibensko – kninska county, which experienced a large increase in the number of visitors and became an overall popular tourist destination, will be used as the case study. The paper will analyse what procedures are implemented in the national park Krka and how do they impact the number of visitors. The paper will present what planning strategies should be used to make already attractive tourist resources even more appealing to visitors. The aim is to showcase good practises in planning and the results it could lead to.*

**Keywords:** *case study, national parks, planning strategy*

### 1. INTRODUCTION

International Union for Conservation of Nature (IUCN) clearly defined protected areas remain the fundamental building blocks of virtually all national and international conservation strategies, supported by governments and international institutions such as the Convention on Biological Diversity. They provide the core of efforts to protect the world's threatened species and are increasingly recognised as essential providers of ecosystem services and biological resources; key components in climate change mitigation strategies; and some cases also vehicles for protecting threatened human communities or sites of great cultural and spiritual value (Dudley, 2008). According to the Nature Protection Act of the Republic of Croatia (NN 80/13, 15/18, 14/19, 127/19), toward which a protected area is a geographically clearly defined area intended for nature protection and managed by radio long-term nature conservation and accompanying ecosystem services. Among the categories of protected areas and purposes, Krka belongs to a national park whose purpose is the preservation of original natural values, scientific, cultural, educational, and recreational values. The Croatian Parliament declares Krka a national park. This means that the national park is managed from the highest level and at the same time from the state level. The protected area is managed by state nature protection institutions. The primary goal is to preserve the original natural values and establish the realization of scientific, cultural, educational, and recreational functions (Ružić, 201:78). A national park is an area that is recognized for its purpose and managed to permanently preserve the entire nature, the ecosystem services it provides, and the associated cultural values, in a legal or another effective manner (<http://www.haop.hr/hr/tematska-podrucja/zasticena-podrucja/zasticena-podrucja/kategorije-zasticenih-podrucja>, 25.08.2020).

National parks are characterized by large spatial units and contain resources that are protected natural assets. The basic setting of development is nature conservation and one of the most important measures is to eliminate the impact of uncontrolled development and bad negative impacts. So, one function is the protection of natural values, and the other is the tourist function. Including tourism in national parks is a risk. With the development of tourism, the park is prone to environmental degradation. At the same time, if the natural environment is more preserved and more significant biological diversity for visitors, such a park is more attractive (Jovičić, Ivanović, 2004; 94). This results in more tourists visiting national parks. An important aspect of tourism includes the attitude of visitors and the behaviour of tourists towards the natural environment. Visitors should respect natural environmental values, culture, tradition, and political systems. Tourism development should ensure the rational use of the natural environment and resources of national parks by avoiding negative consequences. This paper will analyse available research papers related to the management of national parks. The search criteria were the paper was relevant and covered the management of national parks. Furthermore, the paper will present a case study based on national park Krka and present management practices used with data available online and with information obtained from the PR department. The paper will present the key information about national park Krka. The goal is to analyse how any national park, based on the example of national park Krka can attract more visitors and what should be used as a good management practice. Finally, these practices will be presented at the end of the paper as guidelines for national park boards.

## **2. DESCRIPTIVE ANALYSIS OF RESEARCH FINDINGS – AVAILABLE PRACTICE**

The main objective in season is to reduce the pressure on the national park. The park wants to achieve this through planning activities with the help of management. Management in national parks is frequently opposing its purpose (Haukeland J.V., 2011.). There are incompatible goals as a national park has the main purpose to protect natural resources but also has income from visitors (Haukeland J.V., 2011.). The national park needs managers to find equilibrium between protecting natural heritage and offering access to visitors who want to enjoy nature (Haukeland J.V., 2011.). An additional challenge for national park management is local tourism stakeholders who can bring the visitors to the park, but who depend on natural resources of a national park but often are not involved in preserving the nature in parks (Haukeland J.V., 2011.) Nature-based tourism sooner or later influences the environment (Siikamaki P. et al., 2015.). For national parks and any protected area in nature, an increasing number of visitors is a challenge for the management of the area (Siikamaki P., et al., 2015.). Strategic planning is an essential part of management decisions for both non-profit and profit organisations (Phillips P., Moutinho L., 2014.). Xu and Fox (2014) identify a structured, causal relationship between attitudes to nature, the environment, and tourism from the responses of visitors in a national park context. The authors deal with different concepts in the context of national parks, how local strategies for rural place development can work progressively (Hidle, 2019), perceptual evolution related satisfaction, and attachment of national park visitors (Sivalioğlu, P., Berköz, L., 2012), planning (Trakolis, D., 200; Puhakka, R., Saarinen, J., 2013). Many examples are available in the literature.

## **3. CASE STUDY – NATIONAL PARK KRKA**

The following information about managing practices in national park Krka is found on the official website – [www.np-krka.hr](http://www.np-krka.hr) and is part of the Management plan of national park Krka (Plan upravljanja Javne ustanove Nacionalni park Krka, 2010.). National park Krka is located in Šibensko-kninska county in Croatia and covers 109 square meters surface. It covers the natural wonders of the Krka river and the lower part of the Čikola river. The national park is a mostly unaltered area of exceptional natural value, including one or more preserved or

insignificantly altered ecosystems. The main purpose of the park is to serve science, culture, education, and recreation, while tourism activities are there for visitors. National park Krka has several entrances to the park and different attractions available for visitors. The first and the most popular is Skradinski Buk, made up of travertine cascades, islands, and lakes. There are also other trails and different viewpoints, ethnographical heritage such as 19th-century water mills and souvenir shops. The national park is open for visitors year-round and can be visited by road, boat, and walked by foot – the visitors just need to follow environmental protection rules. Some attractions and the services are closed during winter but in the summertime, all the attractions are open for visitors if there are appropriate weather conditions. This natural heritage was proclaimed a national park in 1985. National park Krka is managed by a Public institute under the jurisdiction of the Ministry of Environmental and Nature Protection of the Republic of Croatia. The national park Krka has its management plan which presents a strategic long-term document that presents fundamental management goals of national park Krka and presents the ways its implemented. The management plan was developed from 2006. to 2010. to improve national park management and preserve parts of the Krka river which are part of the national park. The management plan has action plans which define activities for ten years in the field of biological and cultural diversity, science research, including the public in work of the national park, marketing, and promotion, development of visitation system, working on infrastructure, cooperation with residents, institutional growth of Public institute and management of ownership statuses. This plan is prepared for a ten-year period which is ending the current 2020. The management plan first presents the vision of the National park Krka which is the core framework for the management of the park and it has several long-term goals:

- Preserve the quality of the water and travertine cascades
- Preserve and improved unique karst biological flora and fauna in the national park
- Preserve the cultural and historical heritage of the national park
- Ensure the sustainable number of visitors to the national park to offer a true experience of intact nature
- Plan and conduct educational programs for residents and all visitors
- Invest in the education and skills of employees of the public institute
- Encourage and strengthen collaboration with the local community in sustainable management with natural resources.

Based on available data, the management plan offered detailed goals and activities based on different areas of the national park mostly dealing with a natural heritage like preserving forests, lawns, and meadows, water ecosystems, sedimentation of tuff, protection of biological diversity in the park, protection of traditional landscape, protection of speleological objects, preserving the cultural heritage. Other goals and activities include work related to the infrastructure of the national park, education of the employees, creating and protecting the identity of the park, and working on ownership relations of different objects in the national park. The next table will highlight goals and activities related to the marketing of the national park and managing visitors and visitor-related activities. These action plans are being implemented during the period from 2011 to 2020.

*Table following on the next page*

Goal	Activities	Indicators
Include the public and collaborate with local community	Organise themed workshops and meeting for local residents	Number of held workshops and meetings and printed journal of the national park
Promote values and activities in national park with promotional tools	Promote National park Krka on national and international level Plan the promotion via printed and electronic media Plan multimedia presentation of the national park Plan and open permanent exhibition of natural heritage collection in Centre Puljani Plan permanent exhibition of archaeological collection in Puljani Centre Organise lab in Puljani Centre Organise and equip the space for "School in nature" in Puljani Centre Organise space around amphitheatre Burnum Organise space around Oziđana pećina cave Organise space around medieval fortresses Organise space around hydro power plant Krka Collect and present cultural and historical heritage of the national park Plan presentation of old crafts Plan and organise educational programs for the visitors	Material from tourist fairs and multimedia presentations New promotional material Finished permanent exhibitions of natural heritage and archeologic collection Exhibition in Oziđana pećina Ready to use lab Ready to use space for "School in nature" Ready to use space around archaeological locations and cultural historical heritage Collected cultural and historical heritage Presentation of old crafts Organised educational programs
Organise the visits to the park with the least possible bad influence on the nature	Determine how many visitors can be in certain location (Skradinski buk, Roki slap, Stinice, Remetić, Visovac, Monastery Krka, Puljanje, Burnum) Create program for the visitation system for the national park	Define the maximum number of visitors Open new entrances Reorganise the visitation system
Organise reception of the visitors and safe tour of the national park	Set road signalisation with images for the main tourist attractions Create new organisation of traffic and visitor transportation in the national park Build informational and reception centres in Lozovac Stinice and Kružine Build new toll booths on location Roški slap and Remetić Organise new and maintain old hiking trails Reorganise existing building in Puljani centre for accommodation of student groups Build automatic barriers on entrance Lozovac Create questionnaires about quality of services and offer of the national park	Road signalisation with mages New organisation for visitor transportation Built informational and receptions centres and new toll booths Maintained hiking trails Organised accommodation for students New system of ticket control Conducted questionnaires

*Table 1: Goals and activities from the Management plan for National park Krka*  
 (Source: <http://www.np-krka.hr/stranice/plan-upravljanja-nacionalnog-parka-krka/6.html>, 20.08.2020)

Based on information obtained from the PR department of National park Krka, the following table presents the total number of visitors to national park Krka from 2010. to 2020.

Year	2010.	2011.	2012.	2013.	2014.	2015.	2016.	2017.	2018.	2019.
Number of visitors	668.027	683.739	732.999	786.635	804.411	951.106	1.071.561	1.284.723	1.354.802	1.354.725

*Table 2: Total number of visitors National park Krka*

(Source: <http://www.np-krka.hr/stranice/plan-upravljanja-nacionalnog-parka-krka/6.html>, 20.08.2020)

National park Krka conducts every year a questionnaire among visitors to the national park. The goal of the questionnaire is to have an idea of how to plan the future development of the park with an emphasis on customer needs and customer experiences. Based on available data found on the website, there are analysed questionnaires from 2013., 2017., 2018. and in 2019. In the following text questionnaire results from 2017., 2018. and in 2019. will be presented. National park Krka surveyed in 2017. from July 5 to September 28 on locations Skradinski Buk, Roški slap, and Burnum. There was a total of 11 024 visitors who shared their opinion via structured questionnaires given to visitors on tablets. The questionnaire covered demographic data, how visitors position national park Krka and what information do they have about its activities and ways of reaching the national park, information about attractions visited and visitors points of interest, understanding the measures for limiting the number of visitors, satisfaction with services of the national park and suggestions for improvement. National parks have noticed a rapid increase in tourists in recent years. The largest number of respondents comes from Germany, France, Poland, and Great Britain along with a significant number of local visitors. All age groups were covered with the survey, but there was the largest number of respondents from age 25 to 30 years old. As interviewers were students this needs to be taken into account. Based on the level of education there were more than 65% of respondents with higher education. Almost half of the respondents got information about national parks via word of mouth and a large number got the information on the official website and social media of the national park Krka. About 90% of the visits are family visits. The biggest number of visitors is coming to the park from 10 to 16 o'clock which gives space for the national park to stretch the number of visitors on longer hours and create new offers and present attractions to offload the number of visitors on the most popular attraction Skradinski Buk. Visitors mostly walk on hiking trails, visit the viewpoints and watermills. They enjoy taking photographs and swim in the river and they are the least interested in going to souvenir shops, studying informational boards and educational material. The information about the park they mostly got from employees of the park and brochures and informational boards. The main motives for visiting the park are the nature and beauty of the landscape, swimming, and relaxation. Almost 75% of respondents are happy with the number of visitors or are indifferent about the number of visitors. Just 6% of respondents used online purchase of tickets and about 87% of respondents did not plan their visit. agrees that online ticket purchase is a big advantage while there are still 78,4% of respondents who did not plan their visit. Due to the fact, respondents know the ticket price is a contribution to keeping nature safe 67% of respondents think the ticket price is appropriate and they find they learned more things about cultural and natural heritage. About one-third of respondents plan to visit the park again, and they think local traditions are well presented in the park and they would like to participate in educational workshops about water and fauna. A certain number of visitors think nature should be adapted to them – this means these visitors should be educated when it comes to their expectations of the national park. The final part of the questionnaire covered visitor satisfaction with services, staff, infrastructure, and activities in the national park.

They gave very good grades and they were happy with the hospitality of the staff as well as with the cleanliness of the park, the trails around the waterfalls, boat and bus transfers, and road signalisation on the way to the park. hiking trails, boat and bus transfers, natural heritage, services from guides. The lowest grade (grade good) goes to catering services, services adapted to children, toilets, access for the disabled, and offer of bike trails. Suggestions and comments mostly were praises on the beauty of the park, the suggestion to introduce family tickets, complaints on ticket prices, or complaints on too many visitors at the same time. A large number of comments were on access limitations for people using wheelchairs and families with strollers. National park Krka surveyed in 2018. from July 2 to September 21 on locations Skradinski Buk, Roški slap, and Burnum. There was a total of 10 784 visitors who shared their opinion via structured questionnaires given to visitors on tablets. The questionnaire covered demographic data, how visitors position national park Krka and what information do they have about its activities and ways of reaching the national park, information about attractions visited and visitors points of interest, understanding the measures for limiting the number of visitors, satisfaction with services of the national park and suggestions for improvement. The largest number of respondents comes from Germany, France, Great Britain, and Italy along with a significant number of local visitors. All age groups were covered with the survey, but there was the largest number of respondents from age 25 to 30 years old. Based on the level of education there were more than 60% of respondents with higher education. The respondents got information about national park via various web sites, or word of mouth, or social networks of the national park. 58% of the visits were family visits and visitors are coming from accommodation nearby national park. The biggest number of visitors is coming to the park from 10 to 16 o'clock which gives space for the national park to stretch the number of visitors on longer hours and create new offers and present attractions to offload the number of visitors on the most popular attraction Skradinski Buk. Visitors mostly walk on hiking trails, visit the viewpoints and watermills. The information about the park visitors mostly got from employees of the park and brochures and informational boards. The main motives for visiting the park are nature and beauty of the landscape, swimming, relaxation, rich flora and fauna, and taking photographs. Almost 70% of respondents are happy with the number of visitors or are indifferent about the number of visitors. About 80% of respondents agree that online ticket purchase is a big advantage while there is still 78,4% of respondents who did not plan their visit. Due to the fact, respondents know the ticket price is a contribution to keeping nature safe 70% of respondents think the ticket price is appropriate and they find they learned more things about cultural and natural heritage. About one-third of respondents plan to visit the park again, it also 30% of respondents are visiting the park just because they can swim in it and wouldn't visit if swimming wasn't allowed. This shows there is a certain number of visitors who perceive nature as space for recreation and fun and not as a protected area – this means these visitors should be educated when it comes to their expectations of the national park. The final part of the questionnaire covered visitor satisfaction with services, staff, infrastructure, and activities in the national park. They were happy with the hospitality of the staff, signalisation on the way to the park, hiking trails, boat and bus transfers, natural heritage, services from guides. A very good rating goes to available parking, picnic spots, catering offer, souvenir shops, educational and informational content, and availability of local products. The lowest rated facilities and amenities are bike trails, toilets, activities for children, and access for the disabled. Suggestions and comments mostly were complaints on ticket prices, on a large number of visitors which is logical as the questionnaire was conducted during the peak summer season. A large number of comments were on access limitations for disabled and families with strollers. National park Krka surveyed in 2019. from July 8 to September 21 in the Skradinski Buk and Roški slap area. There was a total of 17 947 visitors who shared their opinion via structured questionnaires given to visitors on tablets.



The questionnaire covered demographic data, how visitors position national park Krka and what information do they have about its activities, interest to visit different attractions with a multi-day pass, interest to stay in accommodation in the area and learn about gastronomy and other tourist offer, possibilities of using a mobile app designed for the national park. The largest number of visitors comes from Germany, France, Great Britain, Italy, and Poland as well as there is a significant number of local visitors. All age groups were covered with the survey, but the majority of the respondents were in the age group 25 to 35 years. According to the level of education, there were 70% of respondents with higher education. About 76,4% of respondents planned their visit ahead and, in a survey, conducted in 2018, there were more than 78% of respondents who did not plan their visit due to the limitations in a number of visits while in 2017. there were 87% such respondents. Based on this data it can be noticed that there is a significant change in visitor behaviour and before it was attraction visit along with the other during the main tourist season while in 2019. it became a destination where visitors plan to go as part of their itinerary. About 80% of respondents do not have clear information about numerous attractions in the national park Krka area – five different waterfalls, ethnographic heritage, two sacral objects, the archaeological finding of the Roman military camp, pre-history cave, different visitor and educational centres, educational hiking trails and bike routes. Out of the total number of respondents, 70% of them would go for a multiple-day stay and would have purchased a multi-day pass. In this case, they would have used the accommodation in the surrounding area and explore other activities in the area.

#### **4. CONCLUSION**

Based on available data it can be concluded the Management plan has all the essential elements and planned out the structure of activities. The previous chapter showed the goals and activities related to park management and planning the number of visitors and attract them to visit the park. Also, looking at the total yearly number of visitors, there is almost a double increase in the number of visitors when 2010. is compared to 2019. The PR department of national park Krka conducted surveys among visitors which give valuable information about visitor opinions and behaviour. Based on three surveys conducted in the last three years, we can see visitors are mostly happy with national park Krka. The natural beauty of the park is something that attracts visitors and makes Krka a desirable tourist attraction for incoming tourists in Central Dalmatia. Some organisational and infrastructure elements should be improved as there is a lot of infrastructures that could be better especially when it comes to accessibility and facilities visitors use. What is interesting after introducing online ticket purchases in 2017., there was a big increase in online tickets in 2018. and in 2019. Along with successfully introduced online ticket purchases, the national park already considered introducing the mobile app which could help with an even easier purchasing experience. This means with the use of technology some tasks in the park can be made easier and can create more visitor-friendly surroundings, especially with easier ways of getting tickets. From this research it can be concluded the national park should continue with informing and educating the public about park heritage and offered activities, this could result in expanding tourism offer to the local community and it would encourage economic growth of the area. It needs to be taken into account the survey was conducted during peak tourist season, which means for a larger number of visitors there is a need for service information such as bus and boat departures and availability for different tours in the national park area. The survey also showed interest in the public and visitors for developing an app that would help them navigate and explore the national park. Krka National Park is an example of good practice. Development is based on tourism needs. Activities are aimed at meeting the needs of the park, but also to provide quality service to visitors. At the same time, the national park strives to preserve, protect, and educate nature. In future activities, it is necessary to analyse the guidelines for sustainable development of the park.

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## THE PROCESS OF STUDENT'S ADAPTATION TO SCHOOLING

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### **ABSTRACT**

*This work shows theoretic and empirical research of the process of integration (involvement) management of students to schooling. This process is relatively new for the Bulgarian schools. It occurs in a situation of global change of the whole philosophy of the education system, which makes it necessary to constantly search for opportunities to overcome the discordance of innovations to reach the creation of the next, more effective level of functioning, satisfying the contemporary requirements for making a society with no discrimination, competitiveness in the field of education.*

**Keywords:** *Education, Involvement, School, Adaptation*

### **1. INTRODUCTION**

The school as institution is also in crisis. It is not the only place where people learn things and social and “technology ethics” are made (E. Erikson). The teacher is not the indisputable figure at it any longer. The knowledge itself is problematic. The school is now expected not only to ‘pass’ knowledge, but also to create culture of thinking, of problematizing, of knowledge use, of self-education, of research, of social interactions and attachment. The trust in the relationship family - school is also shaken. In the general practice here the two institutions communicate sporadically and seemingly without desire, but hardly cooperate. The school and family move along different orbits. The social-civil participation in school life is establishing slowly and painfully (Petrov, 2003), the family opens for such participation with difficulties.

### **2. THE PROCESS OF STUDENT'S ADAPTATION TO SCHOOLING**

Civil crisis and yet chaotic development along the way, on which Bulgaria walks, is not yet automatically equal to civil development, but only an opportunity for it and also to create civil society. But its development meets three obstacles. The first is the inertia of ethatism, to a certain degree inherited from the near past and to another degree suitable: a way of thinking, which assigns the organization the responsibilities, the regulation and occurrence of social relations of the state. By being in such a model of thinking, the society suitably accepts that for the cooperation family-school the state takes responsibility and care in the face of the state or community school and the teacher there. The second obstacle lies in the specifications of postmodernity among which you can find individualism, consumerism, mistrust, on the contrary – not enough cooperation whatever it is, requires trust and recognition of the role of common interests and objectives. The third reason lies in a social-economic crisis, which spiritually ravages a significant number of parents and teachers, because for great number of groups of people the satisfaction with primary needs such food, clothes, home is in question. In this crisis the teachers appear to be underestimated spiritually and materially. The serious shocks, which family and school suffer, do not shift the focus of both institutions to create normal relations and cooperation. The parents – because it is about the present and future of their kids, value of indisputable priority. The teachers – because of their professional obligations, professional ethics and civil responsibility before themselves, before their children and before society. The new conditions make this cooperation more complicated and more difficult to implement, but they also open new opportunities for family and school.

In this respect we'll review some of the opportunities between family and school, which originally were considered in respect of the initial stage of primary education, but in principle they can be implemented later in the upper levels of education. The cooperation of family and school is a social need. The public need is in general that they are the primary and main institutions where the social reproduction occurs. There people become individuals from early age, yet at a time most suitable for their individual development. For both institutions the cooperation is significant as far as it gives an opportunity to complement the advantageous traits in education and development of children and to neutralize their weaknesses, by which synergic effect is achieved, i.e. the result of interaction between them is more than arithmetic sum of their potential achievements. It is a necessity mostly for the children. The meaning of cooperation family-school is to make such an environment, which is most favorable for stimulation and guidance of individual and social development; an environment, which is normal for joyful, happy and enriching the child, parents and teachers' life. This cooperation in its essence is not an objective set from outside for each institution, but a consequence of their inherent and main activities, objectives and principles of the teaching process. This is why its development and enrichment are an equal care and responsibility for both parties. Seen from this angle the failures in understanding of cooperation and its implementation are not just one party's fault, but following the logic of ethatic thinking – the school. But school has a specific advantage and responsibility – its employees have the professional knowledge and competence to be an organizing force in cooperation with family and parents. In terms of school and cooperation there are three types of parents' standpoints met (Sermyazhko, 2003a):

- Acceptance of school and readiness for cooperation, support and participation in it;
- Neutrality, passivity, indifference;
- Doubting the correctness of school activity, conflict with teachers and lack of desire to cooperate.
- Unfortunately, the reasons for taking such standpoints, their dynamics, management and teaching overcoming, are a poorly explored field.

What are the functions of school-family cooperation? Considering the goals and objectives of the individual activities in which this cooperation takes place, several basic functions can be distinguished. Information. It has for a subject mutual communication and acquainting with both parties. The school through its teachers and other representatives informs the parents about itself (its structure, mission, objectives, rules, organization of activity, syllabus, school aids, etc.), for the education and schooling development of students and for problems at it, for forthcoming tasks, for expected cooperation from parents, etc. On their part, the parents inform the teachers and school as institution about their expectations from them:

- About expected approaches to their children;
- About the results, which they want to achieve;
- About understanding and support by the teachers, etc.;
- About the specific traits of their children and their upbringing in family (interests, inclinations, skills and weaknesses, features and problems of their character, which they see or which their parents suspect).

Constructive. Firstly, a subject of this function is the formation, enrichment and development of the pedagogical view of parents, the improvement of their pedagogical literacy and culture. It also concerns the enrichment of teachers' knowledge and experience, in acquisition of competence to modification of their knowledge into practice of other subjects (parents) of education, as well to be understood by students and their parents. It is implemented mainly through pedagogical education and practical training. The function is expressed in activities such as:

- Clarification of certain elements of the system of education and training at school and specific ways, means and forms to interact with it, respectively to provide the school as institution and teachers with assistance;
- Getting acquainted with main methods of family education (objectives, styles, methods, means, typical errors and possibilities for their overcoming);
- Education of parents to specific procedures, technique and resources of pedagogical work (education and upbringing of children) in family;
- Provision in case of need of 'emergency methodical assistance' (advising the parents on certain class of problems or specific ones how to be resolved – in conflicts, drugs, deviant behaviour, etc.).

A collateral projection of this function is also the professional development of teachers, as far as it is concerned with successful transformation of expectations and requirements of parents through pedagogical regularities and their recreation and integration in the relevant technologies. Social. The interaction between school and family also has reflection at a society level, i.e. specific social community before which both institutions make their activity legitimate through making public the results received from education and upbringing of children and through their cooperation. Another aspect of this function is to attract the public to better attention and efforts for education and upbringing of children (at home, at school, in the specific social environment), including the overcoming of their deviant manifestation. In other words – to advance in making pedagogical the specific social environment and community. An aspect of the function is socializing the children, their integration in the environment and their individual recognition by the same as persons and individuals. Through the public recognition of interaction family-school, the children evaluate the significance of education and school as institution, as well as the importance the public puts on them and which directly concerns them. The term "quality of education" is complex and multidimensional. It reflects the conformity of the results from education of public needs and those of labour market, of the set government and personal objectives, of the invested social and personal resources (Georgieva, 2009). It has moral dimensions as far as it reflects the care of the educational institutions and their activists for the preparation of children. It is an expression of a critical civil standpoint, which insists on better achievements of education, which requires more and more resources. The quality is also an issue of competitive thinking amid more and more schools competing for students (and their parents) as well as financing. The cooperation school-parents is related to the quality of education as long as it is a form of a meeting point of the education service between the requirements of users and providers. At this meeting point both parties can directly 'negotiate' their understanding about quality education, required and sufficient conditions of this quality and the control upon it. The collaboration is also a form of support of the school resources and capacity morally, with handwork, civil engagement and responsibilities. The participation of parents motivates teachers to higher professional standards towards themselves. It is a precondition the parents to be better informed and more demanding to teachers, mutually and themselves. It teaches them knowledge and skills to understand children and their expectations, as well as to understand better the environment, in which they grow and develop. It also serves as an example for children of civil engagement and active participation in making the school a better place to live and study. The collaboration is also a mutual benchmark of school, management, government authorities. It is also important that it is a prerequisite and opportunity to create a good public-school image, respectively to attract more resources to it. The period between the sixth and seventh year puts the beginning of a radical change in child's life. From this moment starts a new intensive stage in their physical and intellectual development as at the same time their formed habits are improved and new, more complex skills for communication and behaviour are formed.

This is why the systematic training of children begins with the start of first grade. Traditionally, we believe that the sole task of the first-grader is to learn how to read and write. No doubt that this is of the priority of the school training because its main objective is the child's development. But as a matter of fact, there are many and more difficult to overcome challenges before it. Generally, they are related to the complex unfolding of the personal potential – not only at intellectual, but also at physical and social level. At school the children for the first time prove 'seriously' their independence and responsibility before adults; there is made also the first significant public check of the knowledge, social norms and standards of behaviour acquired by them. Interpreted in the language of feelings, the child to become a student means to become a part of the adults' world and to become confident of their own capacity, by which the foundation of a true emotional and social maturation is laid. That is why the successful start at the beginning of school training is very important. However, it is just a stage of the transition from preschool to school age, which begins a way before the first day at school and sometimes it can continue to the end of the first year. The main component of this transition is adaptation to school. Essentially, it is a process of psychological adaptation of child to significantly changed conditions of life and activity. Generally, six-seven-year-old children have the potential to deal with this change, but sometimes problems occur. The first obvious reason is that the first-grader should change their stereotypes very quickly and simultaneously to acquire new, more complex forms of intellectual activity and social behaviour besides that in completely unknown environment. On the other hand, there are significant individual differences in the capacity of children to adapt to new requirements. The parents of first-graders also differ in their attitude to school training and have different degree of willingness to help and support the child in the educational process. The teacher's personality also has enormous influence, being an amount of their professional and human qualities (Terziev, Bankova, Dacheva, 2019-a). There are quality differences among the norms of behaviour at home, at the kindergarten and at school. From the very first day at school, the child meets many regulations and restrictions, about the existence of which they might have never suspected. Some of them cannot even be understood, for example – they cannot walk in the room at class; they should raise their hand, if they want to say something; they shouldn't shout, interrupt other people, etc. Some teachers have professional skills to deal quickly with the problems related to discipline arising from the beginning. But if the class in general is 'difficult' or the teacher does not have enough experience, the learning of these elementary rules takes plenty of time and takes its toll on the nerves of teachers, children and their parents. In this case there is less time for immediate teaching, more time is spent for setting order in class through encouragement or remarks and penalties. On the one hand, this slows down the process of immediate teaching and formation of study habits and skills of children. At the same time emotional tension is created, which affects negatively the adaptation of first-graders to school life. The school performance is the second essential factor in first-graders' adaptation. There are various objective reasons which can cause the child not to demonstrate their real capacity and gradually to get the status of 'failing'. The main risk factors for this are child or other family member's health, poor home conditions, parents' serious financial difficulties, worsened family climate (conflicts among the adults, long absence of a parent, divorce, etc.). The child's self-esteem influences their progress significantly, i.e. their own feelings of having competence in the study process. The self-esteem in its essence is a subjective feeling of personal esteem (self-respect, self-acceptance), which is formed mostly as a result of the parents' attitude. But at school age the children begin to take into account the opinion of other important people of their environment – and at first grade these are the teacher and their schoolmates. So, the self-esteem of the first-graders is influenced also by to what degree they can express themselves, to gain the sympathy of others and their support, in general to 'prove themselves' in the new environment. Some of the first-graders enter a competitive environment for the first time.

This atmosphere can be especially stressful for children who haven't had the chance to assert themselves. The competition is a quality, which to a great extent is shaped by family. It can appear spontaneously in families with more than one child, because the communication among the family members makes the conditions for its appearance. But it can also be formed when the learning of knowledge and good education are family values. It is not compulsory the adults to have high educational qualifications and prestigious profession to cultivate with the child pursuit for knowledge – it is enough from early age to support their curiosity and intellectual development. The children from such families acquire a strong intrinsic motivation to achieve a lot in the study process and that is why they adapt to school life faster and painlessly. Parents play very important role in the creation of suitable emotional environment, which helps the first-grader's adaptation (Terziev, Dimitrovski, Pushova, Georgiev, Solovev, 2020). Psychological tests show a few main factors in the parents' attitude, which play an essential role for this:

- Realistic idea of the real level of child's development at their going to school. The parents, who have adequate expectations for their performance in the study process do not express super criticism and do not stress the first-grader with over expectations;
- Faith in the skills and forthcoming success of the child. It is of enormous importance for them, because it helps them to become confident in their skills and encourages them to follow obligations for their age at school and at home;
- Demonstration of care and love to the child. It is not about the natural emotional outbursts of feelings to them, but the methods of upbringing in the family. The children with high degree of adaptation to the school training are usually from families with authority, but not from authoritarian style of parents' attitude. They have a clear idea of the relative for their age limits and norms of behaviour, more easily make contact with teachers and quicker get used to the requirements at school;
- Systematic communication between parents and child. This is the most important fact for the successful start of school. When parents read the child books, constantly talk to them and listen carefully, they maintain the child's interest in knowledge and form in them the suitable attitude to school training far before the start of school.

Going to school is the first separation from family for the greater number of first-graders. For the first time in life they should build a trustworthy relationship with unfamiliar adults. Yet, regardless of what the school is, the requirements and attitude towards children are always different from the home standards. The more differences, the more difficult is adaptation. Problems in adaptation can appear from the quick change in the daily stereotypes as long as from the new responsibilities the child assumes. At school they get more independence, but they also have more obligations – to be accurate, diligent, disciplined, to pay attention in class, to look after themselves, etc. When all these requirements are set simultaneously and the child doesn't have intrinsic resources to deal with them, the adaptation takes longer and sometimes it is accompanied with a temporary drop in their motivation to study. The primary school teachers' experience indicates that difficulties in adaptation are less often with children who went to kindergarten. They demonstrate better independence and self-confidence, more easily communicate and make friends with their mates, have closer relationship with the teacher and are more often inclined to go to them looking for help. Because all of this they orient themselves in the new conditions more quickly and their adaptation to school life is less painful. Obviously, in this case the social experience, which was got in kindergarten comes of importance. But it is just an auxiliary factor, because in its foundation the successful adaption of first-graders depends on the family and school environment, and also on the child's individual features (Terziev, Stoilova, 2019b-c). The first-grader needs help when the usual problems of adaptation at the beginning do not pass.

Most often they are related to the violation of discipline sometimes with having difficulties in the study process. Teachers know well the stages of adaption to school and usually first pay attention to the parents, if the child does not succeed in adapting in the first few months. A clear signal of this are the aggressive acts to classmates, sometimes to the teacher; refusal to follow the study obligations, walking in the classroom, going out without permission, etc. But there are discrete features of distorted adaptation, which can stay unnoticed for a long period, because they do not violate the school norms. Sometimes the child remains shy and unassertive, they do not have self-initiative at class, do not succeed in making friends and gradually isolate themselves from the class life.

### 3. CONCLUSION

The problem of involving the students in the primary stage of education system through effective methods of management and their implementation in the educational process is an important and integral part of the development of this process. It will be accompanied with certain difficulties and critical moments, which should be overcome after a detailed and accurate analysis. The conducted theoretical and empirical research addresses a current issue in primary teaching – integrated education and education involving children and parents to the primary stage of school training including students with special educational needs and the possibility for implementation of models of management of the study and integrating process in their training is an important element of this process.

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