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## Book of Proceedings

Editors:

Maria Elisabete Pinto da Costa, Maria do Rosario Anjos, Vlasta Roska



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# POTENTIALS AND OPPORTUNITIES FOR THE DEVELOPMENT OF TOURIST EVENTS IN GORSKI KOTAR

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## **ABSTRACT**

*Events are often a motive for travel and an opportunity to participate in unique experiences presented with the content or program of events, and thus the opportunity to visit the destination where they take place in a very special way. Events are often perceived as an expressive means of their participant, as a factor in shaping the image of the place where they occur and as an attractive factor in visiting a destination. From the point of view of a tourist destination, tourist events are part of the tourism sector which in one place and in a certain period of time encourages the full range of human creative and production resources to enrich the tourist offer and gain economic benefits for stakeholders and local communities. Mountainous Croatia is insufficiently recognized as a place of distinct tourist attractiveness. The beauty of the landscape and the untouched nature attracts only a certain number of selective tourists (hikers, campers, skiers and nature lovers), which is far below the possibilities of the area. Good transport infrastructure, proximity to established tourist destinations (Zagreb, Opatija, Rijeka, the island of Krk ) open up opportunities for tourist development of Gorski kotar . The paper begins with the assumption that tourist events are suitable for complementing the experience of the tourist destination Gorski kotar and are a solution for optimal annual use of resources and capacity. The aim of this paper is to conduct a benchmarking analysis of the possibilities of developing tourist events in Gorski kotar in relation to the event-established mountain areas in the surroundings.*

**Keywords:** *tourist events, destination, Gorski kotar*

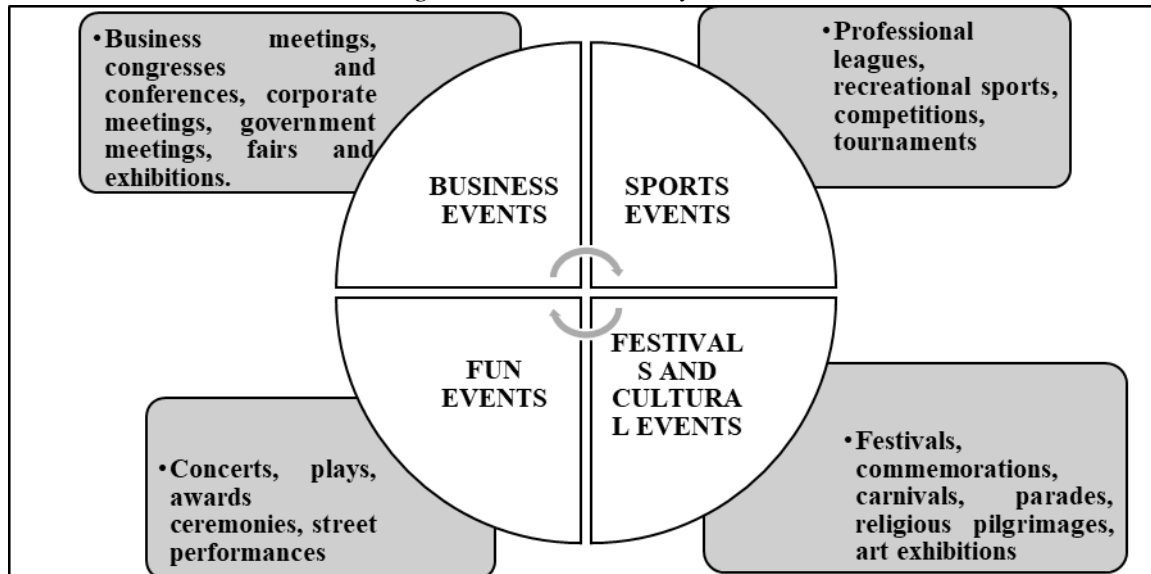
## **1. EVENTS AS A TOURIST PRODUCT**

Events in the modern world have become a central part of culture like perhaps never before. Increased leisure time and discretionary spending have led to an increase in public events, celebrations, and entertainment. Governments now support and promote events as part of their strategies for economic development, nation-building, and destination marketing. Corporations and companies accept events as key elements in their marketing strategies and image promotion. The enthusiasm of groups and individuals in the community for their own interests and passions creates a wonderful array of events on almost every topic and event imaginable. Events simply flood the media, take up a lot of time and enrich lives. Creating a tourist event is a relatively simple process from a theoretical point of view. It is necessary to design the event, brand it and position it on the tourist map of the destination. In a real system, this process is confronted with a whole mix of external and internal factors that affect the event itself, support it, or prevent it from coming to life. In addition, the event itself has its own life cycle, which is a limiting factor, so the question arises as to how opportune it is to develop a brand of event that is in a mature phase, no matter how attractive and desirable it is still. There are several factors that influence the creation of events. Most of them are in the domain of qualitative analysis, which means that they are recognizable by their attributes and their effect is difficult to measure. Factors subject to quantitative analysis are measurable and it is possible to identify their direction and intensity of action.

### 1.1. Classification of events according to content

In recent times, events are no longer left to enthusiastic individuals and local communities, but have become the subject of a professional approach, which requires complex planning and connection with the host space. When classifying events, it should be noted that they can be divided into those that require the use of an individual's free time to visit and those in which participation is expected during the performance of official or educational duties. Therefore, they could be divided into leisure and business events. Free time would include entertainment and sports events, festivals and cultural events, and business events are an independent category.

Figure 1: Sort events by content



Source: author's processing according to: Getz and Page, *Progress and prospects for event tourism research*, 2016.

An event can create only one value category (eg event quality), but in practice it is usually a matter of creating more categories (eg event quality, increasing the reputation of the event and supporting the local community). As Getz and (2016) point out, the totality of values that an event can achieve is a criterion for strategic planning of events in a destination. It is an element on which development policy planners can decide if to support a particular event and how many and what types of events will develop in the future. In practice, such support is reflected in various actions: from media through infrastructural support to the event, all the way to the support and participation of the host destination in the preparation of the candidacy for the organization of the event. Events are a kind of link between the market for tourist attractions created by tourists and the use of events to fill the gap outside the main tourist season. With the seasonal decline in tourist demand, residents and domestic visitors provide a replaceable form of event-driven demand. Interestingly, destination marketing, when events are used to “increase” visitor numbers and attractions, has emerged as a key event-related feature to develop a unique sales offering that distinguishes a destination from the competition. Events are an important motivator of tourism and occupy a prominent place in the development and marketing plans of most destinations. The role and impacts of the planned event in tourism have taken precedence in importance for the competitiveness of the destination. Thus, events have become a fundamental element of the destination system in which accommodation, attractions, transport and ancillary services are used or specially developed (eg providing infrastructure for mega events) in order to improve the destination offer, expand tourism potential and destination



capacity. leisure-based tourism (eg holidays). Over time, the event and destination can become inseparable (Getz, Svensson, Peterssen, & Gunnervall, 2012). The following features can be highlighted:

- The special event refers to the function of the event in achieving a number of goals that benefit tourism and the host community, namely: attracting tourists; creating and strengthening a positive image that is co- branded with the destination / community; and providing multiple benefits to the local population;
- Over time, the characteristic event as a tourist attraction also becomes an institution and its permanence is taken for granted. Its traditions create a stronger sense of community and identity of the place. The event and the images of the destination become inextricably linked;
- Special events can also exist in the context of social worlds and for special interest groups as icons of tourist attractions that facilitate togetherness and identity building.

### 1.2. Model of tourist events

There are three main objectives that determine the desired outcomes of tourism events, and three main planning and implementation processes have been identified. The tourism event model is based on the belief that events must be periodic (or permanent institutions), and that more than one such event can be created in a community or destination. Goals and the planning process can be understood as success factors that event advocates and organizers must pay attention to when planning and producing such events, and they are important for distinguishing features from other events in terms of their functionality.

*Figure 2: Model of tourist events*



*Source: author's processing according to: Getz, Svensson, Peterssen, and Gunnervall: Hallmark events: definition, goals and planning process, 2012*

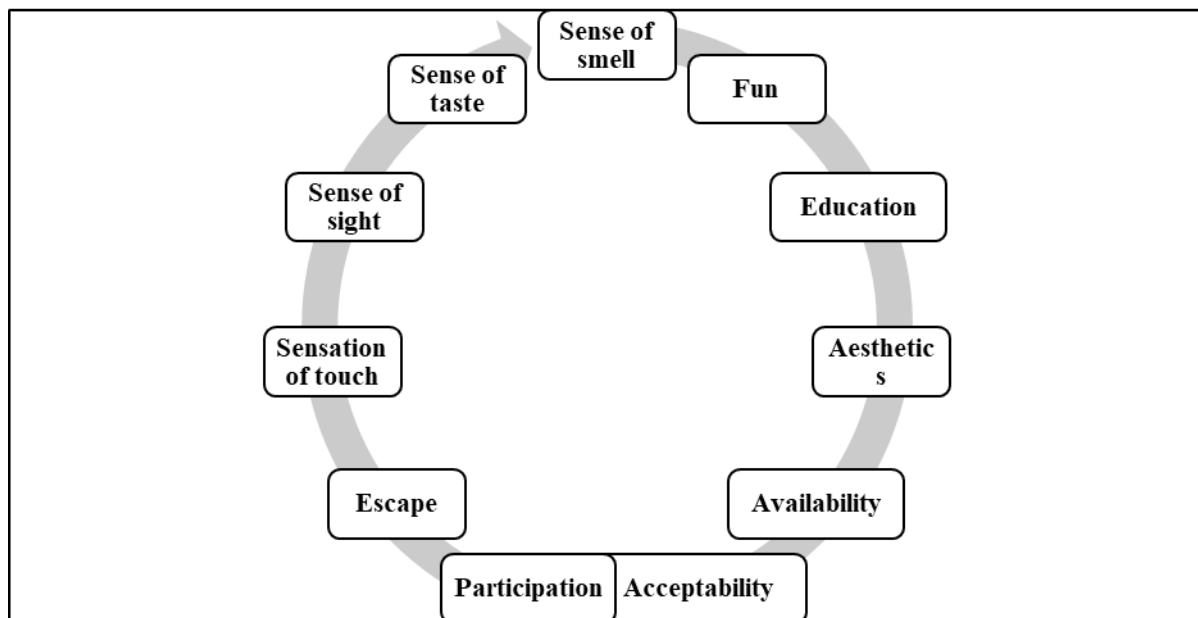
The tourism event model neither assumes nor inherently leads to any specific type of event, nor any predetermined size, theme, or ownership. any type or form of planned event could become tourist event. In the search for the primary attraction factor for special events, reputation seems to be paramount, and this must be nurtured over a long period of time. Therefore, it seems that the sustainability and tradition of local support (institutionalization) are prerequisites for the development of tourism events.

This goes along with the fact that many tourist events possess permanent facilities and the attitude that the whole community is the place or stage for the event.

## 2. EVENT AS AN ELEMENT OF THE ECONOMY OF EXPERIENCE

Many world destinations have long since turned to the so-called "creating an experience" and creating innovative products, because it is above all necessary to achieve competitiveness in the market. It is necessary to create products whose integral part will be to provide a unique, unique experience, because that is the main motive that drives tourists to move. It is important to connect everything that a destination offers, from natural beauty, entertainment, vacation, gastronomy to the history and culture of the destination and involve local communities, entrepreneurs, craftsmen, and others to create a unique, indigenous offer that represents the identity of a tourist destination. In this way, tourists are provided with experiences of special experiences that evoke emotions. Tourist events attract the audience to experience something special, big, significant, or locally striking, which would complete their experience of experiencing a destination. Given that tourist events are organized with the purpose of promoting the destination, increased supply and thus the expected increase in income from tourists, it is important to provide tourists with "unforgettable experience" and the satisfaction of the experience of the economy of experience. Pine and Gilmore (1999) devised the concept of "experience economy" and argued that economics evolves from a service paradigm to an experience paradigm. Revenues will come more from staging unforgettable, exciting and interesting experiences. Consumer tourists value their experience of an event according to the "experience wheel" model, according to which they are attracted by some sense (sight, touch, smell, smell or taste), desire for fun, education, aesthetics or accessibility, and whether the reason is escape, acceptance or desire to participate.

Figure 3: Dynamic framework of tourism experiences



Source: author's processing according to: Ek, Larsen, Hornskov, & Mansfeldt; *A Dynamic Framework of Tourist Experiences: Space - Time and Performances in the Experience Economy*, 2008

The experience begins with an event or activity in which the tourist participates (eg a balloon flight over Zagorje). This event provokes a certain reaction from tourists.

This reaction enters the memory of tourists with all the emotions, images and other things it caused and gives the event a new meaning. What the tourist has experienced affects his self-confidence, which either rises or falls, depending on the experience in the above. All this affects his better understanding of the environment, but also of himself.

### **3. GORSKI KOTAR AS A POTENTIAL AREA FOR THE DEVELOPMENT OF TOURIST EVENTS**

Currently, Gorski kotar is a rather inferior area when it comes to winter sports tourism events. Despite a long tradition of nationally recognized achievements in cross-country skiing and biathlon, sports facilities for winter sports tourism in Gorski Kotar are insufficient. Cross-country skiing infrastructure exists in some cities / municipalities such as Ravna Gora, Mrkopalj and Delnice. Namely, there are two important winter facilities for biathlon and cross-country skiing: Biathlon Center Zagmajna and Nordic Center Vrbovsko. One problem is that they are rarely used for events or competitive purposes (once or twice a year), but rather for training. The training is also ideal for as long as it can attract regular customers who will bring groups - to use the facilities and promote the area. In Delnice, for example, there is a local football stadium where cross-country skiing could be hosted, but not regularly as the space would need to be refurbished enough to hold such events. The advantage of Delnice is that there are stands that would provide visibility and thus could attract not only active participants, but also spectators. There are some other smaller ski slopes in Begovo Razdolje, Petehovac / Delnice, Čelimbaša / Mrkopalj and Rudnik / Tršće, but they are considered more for residents and do not have facilities or business facilities to accommodate a large number of visitors. Gorski kotar offers hunting opportunities, with shooting ranges and cross-country ski trails in Zagmajna (but they are rarely used). There is nothing around the track in Zagmajna (in terms of stands and content), and the additional infrastructure needed for biathlon would require a dedicated shooting range. One of the challenges is that different places have different infrastructure (ie Zagmajna has a shooting range, but not stands and facilities; while Delnice has stands and facilities, but not shooting ranges). There are hunting lodges in Gorski Kotar, and sports such as biathlon could be interesting for development in this area given that it is available to support hunters, but cross-country skiing and hunting in Gorski Kotar are independent of each other. Despite a long tradition, apart from natural resources, there is no developed infrastructure for biathlon, but it can be noticed that cross-country skiing and hunting as recreational activities have potential. In Delnice there is a multifunctional sports hall (skating rink in winter), and the landscape in Gorski Kotar is equipped for sports and events, but without the necessary additional infrastructure such as restaurants. In addition, sledding is a popular offer. As sledding grows in popularity, tourism planners in local governments need to promote events through various marketing channels, but as the image of the destination becomes synonymous with sledding, they can create a niche market. In line with this niche, it is planned to build a national toboggan center in Lokve, one of the local municipalities. Such an approach has proved useful in Pokljuka, and while the plan to build a national toboggan run in Lokve will be a step in the right direction, local tourism authorities, planners, hosts and event organizers in Gorski Kotar have a lot to gain from business operations and services. the influence of the toboggan center and the areas where the activities will take place has increased. Given the scale of the business and the distance, tourism planners / managers and event organizers in Gorski Kotar may realize that the amount of space needed to accommodate people is not enough. This means that the provision of services and events will involve maximizing existing space, and given that local authorities are small communities, much of what is needed for event and tourist services can be offered directly by local businesses. It would be necessary to consider planning activities and events on a smaller scale in accordance with the existing capacities and possibilities for providing services in municipalities and the local community.

There is an opportunity to develop cross-country skiing in the valley areas, but for recreational rather than competitive purposes. This can bring in revenue in the winter months, and local businesses can benefit from it as complementary rather than primary opportunities. Gorski kotar offers tobogganing, which does not require a large expansive infrastructure. Most winter sledding takes place on natural trails. There used to be the Gorski Kotar Toboggan Cup as a popular activity and event that local tourist authorities throughout Gorski Kotar are trying to revitalize as a regional event. The local communities of Gorski Kotar are already working on popularizing sledding by organizing various races. However, the main problem with sledding organized in Gorski Kotar is that they are of local importance and therefore do not attract more tourists from the region. Tobogganing is organized using ad hoc (created) infrastructure, and marketing efforts are focused on narrow target groups - due to improvised toboggan runs and limited additional offers. Nevertheless, the possible creation of a national toboggan center would probably stimulate interest in this activity, in terms of supply and market attractiveness, and create a basis for expanding into more complex offers and packages of sports tourism and events.

*Table following on the next page*

*Table 1: SWOT analysis of Gorski Kotar resources*

	FORCES	WEAKNESSES
Natural resources	<ul style="list-style-type: none"> <li>• Favourable climate and altitude</li> <li>• Natural beauties</li> <li>• Preserved environment and clean air</li> <li>• Sources of drinking water</li> <li>• The richness of the forest</li> <li>• Water resources (lake rivers)</li> <li>• Diverse and rich flora and fauna</li> <li>• National Park and Nature Park</li> </ul>	<ul style="list-style-type: none"> <li>• Isolation of hilly areas</li> <li>• Poor tidiness and maintenance of the environment</li> <li>• Environmental pollution and devastation</li> </ul>
Infrastruct	<ul style="list-style-type: none"> <li>• Good transport connections with other areas</li> <li>• Other general infrastructure is satisfactory</li> <li>• Existing sports infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>• Poor traffic connections of certain places and settlements</li> <li>• Unsatisfactory communal infrastructure</li> <li>• Outdated and out-of-date cadastral system</li> </ul>
Population	<ul style="list-style-type: none"> <li>• The hospitality of the inhabitants</li> <li>• Citizens' motivation for change</li> <li>• High level of education</li> <li>• Presence of high schools</li> <li>• University of Rijeka</li> <li>• Vocational schools in the North Adriatic</li> <li>• Aggregation of skilled labour on North Adriatic</li> <li>• Orientation of residents to ancillary activities</li> </ul>	<ul style="list-style-type: none"> <li>• Depopulation</li> <li>• Unfavourable age structure</li> <li>• Unemployed geographical distribution</li> <li>• Poor qualification structure</li> <li>• Insufficient support for pupils and students</li> <li>• High unemployment rate especially women</li> <li>• The language barrier of some citizens</li> <li>• Poor opportunities for young people</li> </ul>
	OCCASIONS	THREATS
Natural resources	<ul style="list-style-type: none"> <li>• Favourable amounts of snow in winter</li> <li>• Possibility of artificial snow production</li> <li>• Close to the sea</li> <li>• Close to significant tourist destinations of the northern Adriatic</li> <li>• Close to major cities</li> <li>• Possibility of ecological energy production (wind, mini hydro power plants)</li> </ul>	<ul style="list-style-type: none"> <li>• Acid rain - deforestation and pollution</li> <li>• Hydrogeological devastation</li> <li>• Unresolved sewer system</li> </ul>
Infrastr	<ul style="list-style-type: none"> <li>• Possibility of building the road Lič-Novi Vinodolski (shortest connection with the sea)</li> </ul>	<ul style="list-style-type: none"> <li>• The expressway contributes to the isolation of certain parts of Gorski Kotar</li> <li>• The government is showing little interest in investing in Gorski Kotar's infrastructure</li> </ul>
Population	<ul style="list-style-type: none"> <li>• Increased need for staff</li> <li>• Creating opportunities for opening new activities and professions</li> <li>• Positive growth trend of existing activities</li> <li>• Inflow of staff and labour from other parts</li> <li>• Increasing trade with other countries</li> </ul>	<ul style="list-style-type: none"> <li>• Negative migration balance</li> <li>• Loss of Gorani identity</li> <li>• School closure due to depopulation</li> <li>• The departure of a younger workforce</li> <li>• Big changes in a short time - a weak existing tourist tradition</li> </ul>

*Source: author's processing based on the Development Plan of the Gorski kotar microregion*

#### 4. CONCLUSION

In order to qualitatively determine the potential of the Gorski Kotar area for the development of tourist events, it is necessary to conduct numerous researches which are the task of scientific institutions, regional self-government and local communities, tourist communities and economic entities that gravitate to this area. Another question is what is more opportune to develop tourism and then create events or design an attractive event that will attract visitors and then build supporting infrastructure.

Namely, there is a bad experience with the nearby Croatian Olympic Center Bjelolasica, which started operating in 2006 and ended ingloriously in 2011 with a series of fires. A combination of circumstances led to the fact that HOC Bjelolasica, despite careful planning, good infrastructure, and transport connections, did not come to life. Therefore, for any serious tourism development project, it is necessary to learn from the HOC project. The economic climate in Gorski Kotar is very bad, but this should be understood as a stimulating situation, since the tourism development program in Gorski Kotar, in addition to demographic renewal, has the second most important goal of the upward trend of the economy. The development of tourist events in Gorski Kotar now has several weaknesses that will be eliminated over time, as tourism development progresses. Gorski kotar has its own tourist tradition and the existing superstructure of tourist and sports facilities. If we want to draw a final and overall conclusion, all indications are that we should go to the development of tourism events in Gorski Kotar, the only limiting factor may be insufficient awareness of the importance and need to invest in the development of this region. capital.

### LITERATURE:

1. Bowdin, G., McDonnell, I., Allen, J., & O'Toole, W. (2006). *Events Management* (2nd Edition izd.). London: Routledge. doi:<https://doi.org/10.4324/9780080457154>
2. Development plan of the microregion Gorski kotar <https://www2.pgz.hr/doc/dokumenti/savjetovanje-sjavnosc/2021/razvoj%20PGZ/Nacrt%20prijedloga%20Plana%20razvoja%20PG%C5%BD%202022.-2027.pdf>
3. Ek, R., Larsen, J., Hornskov, SB, & Mansfeldt, OK (2008). A Dynamic Framework of Tourist Experiences: Space - Time and Performances in the Experience Economy. *Scandinavian Journal of Hospitality and Tourism*, 8 (2), p. 122–140. doi: <http://www.tandfonline.com/action/showCitFormats?doi=10.1080/15022250802110091>
4. Getz, D., & Page, SJ (2016). Progress and prospects for event tourism research. *Tourism Management*, 52 (2), p. 593-631. doi: <https://doi.org/10.1016/j.tourman.2015.03.007>
5. Getz, D., Svensson, B., Peterssen, R., & Gunnervall, A. (2012). Hallmark events : definition, goals and planning process. *International Journal of Event Management Research*, 7 (1/2), p. 47-67.
6. Pine, BJ, & Gilmore, JH (1999). *The Experience Economy. Work is Theater and Every Business a Stage*. Boston: Harvard Business School.
7. Rudančić, A. & Težak, M. (2021). *Segment of Young Travelers in Events Tourism: motives, Perceptions and Influences*. *Ekonomске ideje i praksa*, (40), p.81-94
8. Rudančić-Lugarić, A. (2014). Integrated quality management of a tourist destination – the key factor in achieving a competitive advantage. *Interdisciplinary Management Research X* (str. 312-332). Opatija: Josip Juraj Strossmayer University of Osijek, Faculty of Economics in Osijek
9. Quinn, B. (2009). *Festivals, Events, and Tourism*. Dublin: Institute of Technology.

## SURVEY OF THE DATASET META-FEATURES

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### ABSTRACT

*Machine learning is an active area of research and has seen the development of many algorithms. Machine learning practitioners at different levels frequently face a similar problem: What algorithm best suits their data? Recent meta-learning research automates this procedure using a meta-classifier to predict the best algorithm for a given dataset. Meta-features are used to describe the properties and characteristics of datasets and construct the feature space for meta-learning. In this paper, we performed a literature survey to recognize meta-features that should be taken into account when providing meta-learning research and identify directions for further research in this area.*

**Keywords:** *Meta-learning, meta-features, dataset characteristics, machine learning*

### 1. INTRODUCTION

The scientific community and industry increasingly make use of large amounts of data to guide decision-making. Data needs to be analysed by applying data mining approaches to achieve this goal. Data mining requires a high level of expertise in a large corpus of methods and algorithms that become increasingly complex with more hyperparameters. Recent research papers in this domain are, in most cases, focused on the empirical evaluation of algorithms to find superior algorithms. Due to the complexity, this "case study" approach isn't enough. Different learning algorithms should be evaluated on various datasets to identify the best algorithm for a specific problem. There is a need for a systematic approach to the recommendation of data mining algorithms for a particular task. The meta-learning field is developing to deal with this challenge (e.g. [1]). Meta-learning is a process that deals with the prediction performance of an algorithm on a given dataset. Predicting the performance of different data mining algorithms allows one to rank the algorithms and therefore provide user support in data mining. However, the success of meta-learning depends on many factors. One of the most important factors is the set of meta-features used for meta-learning. Meta-features definition is the first phase in meta-learning system development. The main idea of this phase is that meta-features provide valuable information for the prediction of machine learning algorithms' performance. Thus, it is essential to identify and describe a set of such characteristics. The characterization of datasets can be performed under a variety of approaches. The tendency in previous research was to collect as many meta-features as possible. Such an approach may lead to a large set of meta-features that can be redundant. Furthermore, meta-features are not uniformly explained, categorized, and computed. This makes empirical studies hard to reproduce. Therefore, several unique challenges arise: (i) which meta-features exist, (ii) how can those meta-features be described, (iii) how can those meta-features be categorized, (iv) is there difference among meta-features between different domains? This paper aims to find out which meta-features can be used in meta-learning for algorithms selection. The contribution of this work is in conducting literature review of previously used meta-features and suggest groups of meta-features that should be

considered when providing meta-learning research. The rest of the paper is organized as follows. In Section 2, an overview of meta-learning is given. Section 3 presents the types of features. The meta-features are formally defined and explained in Section 4, followed report on results obtained after performing a literature review. Finally, Section 5 summarizes our work, outlines directions for future research, and ends in discussing how meta-features can be a good basis for intelligent system development representing a step forward to autonomous machine learning.

## 2. RESEARCH BACKGROUND

No Free Lunch theory [2] tells us that, for a particular data set, different algorithms have different performance and the performance differences vary with data sets depending on data set characteristics. Meta-learning, or "learning to learn", uses previously gathered knowledge about a learning task to provide an automatic selection, recommendation, or support for a future task. Meta-learning can also be described as learning from previous experience gained during applying various learning algorithms on different kinds of data and reducing the needed time to learn new tasks [1]. The main idea of meta-learning is to exploit the knowledge gained from previous data analysis experience (Bilalli et al., 2017) and use this experience of prior experiments to learn how to improve automatic learning and recommendation of algorithms. Meta-learning consists of three steps, presented in Figure 1. The first phase in the meta-learning process is to establish a meta-learning space using meta-data comprising dataset characteristics called meta-features and a performance measure (meta-response) for machine learning mining algorithms [3]. As a result of the first phase, a meta dataset is constructed. In the second phase, a meta dataset is used to perform learning. A predictive meta-model is developed out of the meta-dataset been built in the first phase—second phase results with meta-model. The third phase deals with prediction when a new dataset comes. Characteristics of the new dataset are calculated, and the predictive meta-model from the second phase is used to predict the performance of an algorithm, for which the meta-model was developed, on that dataset.

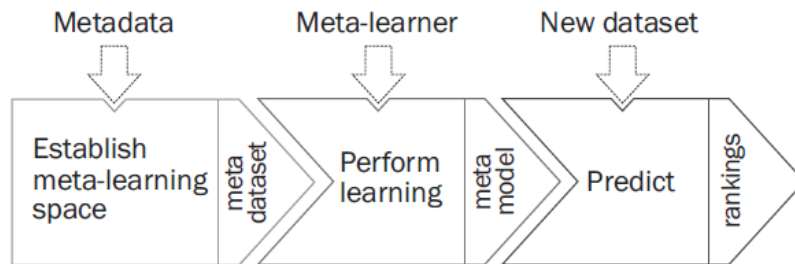


Figure 1: Process of meta-learning [3]

The first phase in the meta-learning process is to establish a meta-learning space using meta-data comprising dataset characteristics called meta-features and a performance measure (meta-response) for machine learning mining algorithms [3]. As a result of the first phase, a meta dataset is constructed. In the second phase, a meta dataset is used to perform learning. A predictive meta-model is developed out of the meta-dataset been built in the first phase—second phase results with meta-model. The third phase deals with prediction when a new dataset comes. Characteristics of the new dataset are calculated, and the predictive meta-model from the second phase is used to predict the performance of an algorithm, for which the meta-model was developed, on that dataset. Several meta-learning techniques have been developed so far. These can be categorized into three broad groups: learning based on task properties, learning from previous model evaluations, and learning from already pre-trained models [4]. All these approaches use characteristics or properties of datasets as the foundation for the actual meta-



learning. These properties of datasets are typically called meta-features. The meta-features are measures that are extracted from data sets and can be used to uniformly characterize different data sets, where the underlying properties are reflected. The meta-features should be conveniently and efficiently calculated and related to the performance of machine learning algorithms (Castiello et al., 2005). There have been various research papers focusing on studying and improvement of the meta-features. Some meta-features have been employed to characterize data sets and have been working effectively in modelling the relationship between the characteristics of data sets and the learning algorithms. Since different meta-features have been proposed in the literature, in the next sections, we investigate types of features and then the types of the meta-features.

### 3. TYPES OF THE DATASET FEATURES

There are several types of dataset features. In other disciplines, the term meta-feature is also known as a variable, attribute, criterion, or characteristic (ex. in multicriteria decision making, MCDM). Depending on the feature type, different meta-features can be extracted based on values achieved per feature. In this section, we discuss different types of features. The most straightforward division of feature's types is:

- Qualitative features. Qualitative features are also known as descriptive features. To express the value of an item per qualitative feature, we use non-numerical expressions – words, sentences, letters, sets of letters, or similar. Examples of the qualitative features include names, colors, materials, and others. This feature type is also known as a categorical feature or categorical variable.
- Quantitative features. Quantitative features are also known as numerical features. To express the value of an item per quantitative feature, we use numbers (positive, negative, decimal, ...). Examples of quantitative features include age, height, weight, IQ, etc.
- Quantitative features enable us a much faster and broader analysis of the items in the data table. The meta-features are primarily related to the quantitative features because meta-features are associated with the study of items using some mathematical models.
- Quantitative features can be divided into two subgroups:
  - Features of costs. Those are the features we prefer lower values of items. For example, fuel consumption is the feature of costs considering consumers' perspective because consumers prefer cars with lower fuel consumption (lower costs).
  - Features of benefits. Those are the features we prefer higher values of items. Examples of the features of benefits include BDP, IQ, grades, etc.

In addition, some features cannot be categorized in any of those two subgroups. Some are at some part of their scale features of costs. In other parts of the scale, there are benefits. Example: power engine strength: we prefer it higher until some point when the higher values do not present the benefit anymore).

The following aspect of analyzing the quantitative features include division to:

- Continuous features. Continuous features are numeric features that have an infinite number of values between any two values. A continuous feature can be numeric or date/time, such as weight or height. As far as continuous features are concerned, discretization is introduced to segment their domains into two or more intervals [5].
- Discrete features. Discrete features are quantitative features that have a countable number of values between any two values. A discrete feature is always numeric—for example, the number of students or cars.

Further analysis of feature types can lead us to the types of scales items that can be expressed on [6]:

- The nominal scale is the simplest as the numbers, and the letters assigned to objects serve as labels for identification or classification.
- An ordinal scale arranges and classifies objects according to their degree in an ordered relationship (creating a rank list).
- The Interval scale comprises the principle of a fixed distance between 1 and 2 and 2 and 3, which should be equal distance (calendar).
- The ratio scale indicates the highest levels of measurement as it contains all characteristics of classification, order, fixed distance, and zero origins.

The last division of features explained in this paper is as follows:

- Natural features. Natural features are the ones that present objects in their natural property. An example is height which describes the property how tall a person is on its natural scale.
- Constructed features. When variables are represented in a simpler scale, the then constructed feature is designed. For example, quality measured on the scale of 1 to 10 is an example of constructed scale because 1-10 is not a natural scale for measuring the rate. Quality is a much more complex construct than just a number.
- Proxy features. Proxy features are the ones that are used to measure some property even though they naturally or mainly measure some other property. For example, the Richter scale is a constructed feature for measuring the strength and impact of the earthquake (that is the main role of the Richter scale). However, the Richter scale can be used in construction for measuring the strength of buildings. Another example is using BDP for measuring the quality of living in a certain country.

#### 4. THE OVERVIEW OF META-FEATURES

Meta-learning success depends on the input, meta-features used to describe the given problem. Finding appropriate meta-features which explain well specific task is basic problem of meta-learning [7]. We have grouped meta-features into four categories: general meta-features, statistical-based meta-features, information-based meta-features and model-based meta-features. Those groups are discussed in this section. Due to the paper size limitation, all meta-features are not in-depth explained here, but reference is given for a detailed explanation.

##### 4.1. General meta-features

General meta features are presented in Table 1. General features are simple, commonly known and easily extracted from data [8]. They are also called simple measures [7]. There are various categorizations of general features. The list of all general-meta features found in the previous studies is given in Table 1.

<i>Meta-feature / Derivatives</i>	<i>References</i>
Number of instances <i>Attributes To Instances ratio</i> [8] <i>Dataset dimensionality</i> [7] [9] [10]	[10], [7], [11], [9], [12], [4]
Number of features <i>Categorical To Numerical attributes ratio</i> [8]	[10], [7], [11], [9], [12], [4]
Number of classes <i>Number of binary attributes</i> [11]	[10] [7], [11], [9], [12], [4]
Number of missing values	[10], [12], [4]
Number of outliers <i>Outliers ratio</i> [13]	[12], [4]

Table 1: General meta-features definition

#### 4.2. Statistical-based meta-features

Statistical features capture the statistical properties of the data [14]. They are presented in Table 2.

<i>Meta-feature / Derivatives</i>	<i>References</i>
Skewness	[9], [10], [13], [11], [12], [4]
Kurtosis	[7], [9], [10], [13], [11], [12], [4]
Correlation	[10], [4], [9], [11], [12]
Covariance	[4], [7], [12]
Concentration	[4], [12]
Sparsity	[4], [12]
Gravity	[4], [12]
ANOVA p-value	[4], [12]
Coefficient of variation <i>Standard deviation ratio</i> [11]	[4], [12]
PCA 1	[4], [12]
PCA skewness	[4], [12]
PCA 95%	[4], [12]
Class probability	[4], [12]

*Table 2: Statistical-based meta-features definition*

Statistical meta-features give insights into data distribution: average, standard deviation, correlation, and kurtosis. Statistical measures are used only for numerical attributes [7]. Those measures are [4]: Skewness, Kurtosis, Correlation, Covariance, Concentration, Sparsity, Gravity, ANOVA p-value, Coefficient of variation, PCA 1, PCA skewness, PCA 95%, Class probability.

#### 4.3. Information-based meta-features

The information-based meta features are presented in Table 3.

<i>Meta-feature / Derivatives</i>	<i>References</i>
Class entropy	[10], [7], [11], [12], [4]
Normalized entropy	[9], [7], [12], [4]
Mutual information	[7], [10], [12], [4]
Uncertainty coefficient	[4], [12]
Equivalent number of features	[7], [4], [9], [11], [12]
Noise-signal ratio	[4], [9], [11], [12]

*Table 3: Information-based meta-features definition*

Information-theoretic meta-features are from the information theory [8]. These measures are based on entropy, and they are used for discrete attributes. Those measures are Class entropy, Normalized entropy, Mutual information, Uncertainty coefficient, Equivalent number of features, and Noise-signal ratio.

#### 4.4. Model-based meta-features

Model-based measures are presented in Table 4. Model-based measures are extracted from a model induced using the training data, often based on decision tree (DT) models [15]. Properties extracted from other models have also been used [16]. Those measures are [4], [12], [15]: Number of nodes and leaves, Branch length, Nodes per feature, Leaves per class, Leaves agreement, Information gain.

<i>Meta-feature / Derivatives</i>	<i>References</i>
Number of nodes and leaves	[4], [12], [15]
Branch length	[4], [12], [15]
Nodes per feature	[4], [12], [15]
Leaves per class	[4], [12], [15]
Leaves agreement	[4], [12], [15]
Information gain	[4], [12], [15]

*Table 4: Model-based meta-features definition*

## 5. ANALYSIS AND DISCUSSION OF RELEVANT META-FEATURES

Qualitative analysis and discussion will include papers identified as the most relevant regarding defined research objectives and research questions. Based on the analysis, the authors conceptualized research of meta-features.

### 5.1. Meta-features research which used corpus of groups

I. Khan, X. Zhang, M. Rehman, and R. Ali [17] recently performed an empirical study of meta-learning for classifier selection. They examined five types of meta-features. Besides the latter four groups from previous tables, they employed structural information-based measures.

L. P. F. Garcia, A. C. P. L. F. de Carvalho, and A. C. Lorena [18] used all four groups from section 3 with special focus on noisy data identification task and identifying which characteristics are important for that specific task.

### 5.2. Meta-features research which used some of the groups

C. Castiello, G. Castellano, and A. M. Fanelli [7] tried to characterize meta-data. They performed an analysis of meta-features that can capture the properties of specific tasks to be solved at the base level. General, statistical and information-theoretic measures were included. Among described, they emphasized ten meta-features based on theoretical explanation of features. M. Elmahgiubi [12] in his thesis used all the same features as [4]. Similar to [11], who did a literature review of meta-learning, but with a limited number of features. G. Wang, Q. Song, H. Sun, X. Zhang, B. Xu, and Y. Zhou [9] investigates the relationship between the performance of a feature selection algorithm and the characteristics of data sets. They have used three groups of characteristics: general, statistical, and information-theoretic. After testing, authors have discussed associations between algorithm performance and data characteristics but didn't detect important or less important characteristics for the given task. K. Woźnica and P. Biecek [19] analysed binary classification problem and selected 20 data sets with continuous variables. Authors used only statistical and information-theoretic meta-features to characterize those datasets (38 meta-features were included into research).

### 5.3. Meta-features research which derived features

Kalousis [10] performed a systematic search for features that can describe the dataset, focusing on attribute relationships. Those features are grouped into: (i) describe nature of attributes, (ii) describe attributes, (iii) describe associations between attributes, (iv) describe associations between attributes and the target variable. The author used information-based measures to describe nominal attributes, whereas statistical measures were used for continuous. C. Cui, M. Hu, J. D. Weir, and T. Wu [13] employed 15 meta-features (statistical and geometrical), of which some are extensively used in meta-learning (basic statistical characterizations of the dataset). In contrast, geometrical measurements, such as the gradient-based features on response values ratio of local extrema and the most significant difference, are derived. Some authors focused on data complexity meta-features, which capture the complexity of the frontier that separates the classes [20] [21].

Recent research papers omit simple measures and derive more complex measures: e.g. [22] propose problem complexity-based measures. Or focus on the familiar but more complex measures; such as [15] on different model-based features. Similar approach is also adopted by [23] in recent paper discussing data characterization. Authors discuss the pitfalls of using traditional meta-features directly and demonstrate importance of learning high-level data properties based on traditional features.

## 6. CONCLUSION

The process of meta-learning is based on the quality of the meta-data which is used during learning. Relevant meta-features should be identified to characterize meta-data. In this research, we have examined a characterization of meta-features through an analysis of the most frequently used measures. Results demonstrated that specific measures for meta-features could be identified as the basis for meta-learning. There is no unique definition and categorization of meta-features. Meta-features vary across different domains and specialized groups of meta-features are required for the specific task and specific domain. The development of domain-specific meta-features is also recognized in the previous research (Cui et al., 2016) and considered difficult. Furthermore, I. Khan, X. Zhang, M. Rehman, and R. Ali [17] in the recent work, pointed out the need for differentiation of meta-features regarding different tasks: clustering [24], instance selection [25], feature selection [9], optimization [26]. These survey results are in line with these results. Moreover, these survey results pointed out a need to measure the importance of meta-features for specific tasks in specific domains. Those are directions for future research.

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## LITERATURE:

1. R. Brazdil, P., Giraud Carrier, C., Soares, C., Vilalta, 'Metalearning: Concepts and Systems', 2009, pp. 1–10.
2. D. H. Wolpert and D. H. Wolpert, 'The supervised learning no-free-lunch Theorems', IN PROC. 6TH ONLINE WORLD CONFERENCE ON SOFT COMPUTING IN INDUSTRIAL APPLICATIONS, pp. 25–42, 2001.
3. B. Bilalli, A. Abelló, and T. Aluja-Banet, 'On the predictive power of meta-features in OpenML', International Journal of Applied Mathematics and Computer Science, vol. 27, no. 4, pp. 697–712, Dec. 2017.
4. J. Vanschoren, 'Meta-Learning: A Survey', Oct. 2018.
5. Qinghua Hu, W. Pedrycz, D. Yu, and Jun Lang, 'Selecting Discrete and Continuous Features Based on Neighborhood Decision Error Minimization', IEEE Transactions on Systems, Man, and Cybernetics, Part B (Cybernetics), vol. 40, no. 1, pp. 137–150, Feb. 2010.
6. S. Dalati, 'Measurement and Measurement Scales', 2018, pp. 79–96.
7. C. Castiello, G. Castellano, and A. M. Fanelli, 'Meta-data: Characterization of input features for meta-learning', Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), vol. 3558 LNAI. pp. 457–468, 2005.
8. Rivolli, L. P. F. Garcia, C. Soares, J. Vanschoren, and A. C. P. L. F. de Carvalho, 'Characterizing classification datasets: a study of meta-features for meta-learning', Aug. 2018.
9. G. Wang, Q. Song, H. Sun, X. Zhang, B. Xu, and Y. Zhou, 'A feature subset selection algorithm automatic recommendation method', Journal of Artificial Intelligence Research, vol. 47. pp. 1–34, 2013.

10. A. Kalousis, 'Algorithm Selection via Meta-Learning', University of Geneva, Geneva. p. 283, 2002.
11. N. Bhatt, A. Thakkar, and A. Ganatra, 'A Survey & Current Research Challenges in Meta Learning Approaches based on Dataset Characteristics', *International Journal of Soft Computing and Engineering*, vol. 2, no. 1. pp. 239–247, 2012.
12. M. Elmahgiubi, 'An Efficient Framework for Automatic Algorithm Selection using Meta-Learning by An Efficient Framework for Automatic Algorithm Selection using'. 2016.
13. Cui, M. Hu, J. D. Weir, and T. Wu, 'A recommendation system for meta-modeling: A meta-learning based approach', *Expert Systems with Applications*, vol. 46, pp. 33–44, Mar. 2016.
14. M. Reif, F. Shafait, M. Goldstein, T. Breuel, and A. Dengel, 'Automatic classifier selection for non-experts', *Pattern Analysis and Applications 2012* 17:1, vol. 17, no. 1, pp. 83–96, Jul. 2012.
15. Y. Peng, P. A. Flach, C. Soares, and P. Brazdil, 'Improved Dataset Characterisation for Meta-learning', *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, vol. 2534, pp. 141–152, Nov. 2002.
16. A. Filchenkov and A. Pendryak, 'Datasets meta-feature description for recommending feature selection algorithm', *Proceedings of Artificial Intelligence and Natural Language and Information Extraction, Social Media and Web Search FRUCT Conference, AINL-ISMW FRUCT 2015*. pp. 11–18, 2016.
17. Khan, X. Zhang, M. Rehman, and R. Ali, 'A Literature Survey and Empirical Study of Meta-Learning for Classifier Selection', *IEEE Access*, vol. 8. pp. 10262–10281, 2020.
18. L. P. F. Garcia, A. C. P. L. F. de Carvalho, and A. C. Lorena, 'Noise detection in the meta-learning level', *Neurocomputing*, vol. 176. pp. 14–25, 2016.
19. Woźnica and P. Biecek, 'Towards better understanding of meta-features contributions', Feb. 2020.
20. A. C. Lorena, A. I. Maciel, P. B. C. de Miranda, I. G. Costa, and R. B. C. Prudêncio, 'Data complexity meta-features for regression problems', *Machine Learning*, vol. 107, no. 1. pp. 209–246, 2018.
21. C. Lorena, L. P. F. Garcia, J. Lehmann, M. C. P. Souto, and T. K. Ho, 'How Complex is your classification problem? A survey on measuring classification complexity', *ACM Computing Surveys*, vol. 52, no. 5, Aug. 2018.
22. G. Wang, Q. Song, and X. Zhu, 'An improved data characterization method and its application in classification algorithm recommendation', *Applied Intelligence*, vol. 43, no. 4. pp. 892–912, 2015.
23. M. M. Meskhi, A. Rivolli, R. G. Mantovani, and R. Vilalta, 'Learning Abstract Task Representations', Jan. 2021.
24. A. Pimentel and A. C. P. L. F. de Carvalho, 'A new data characterization for selecting clustering algorithms using meta-learning', *Information Sciences*, vol. 477, pp. 203–219, Mar. 2019.
25. E. Leyva, Y. Caisses, A. González, and R. Pérez, 'On the use of meta-learning for instance selection: An architecture and an experimental study', *Information Sciences*, vol. 266, pp. 16–30, May 2014.
26. M. A. Muñoz, Y. Sun, M. Kirley, and S. K. Halgamuge, 'Algorithm selection for black-box continuous optimization problems: A survey on methods and challenges', *Information Sciences*, vol. 317, pp. 224–245, Oct. 2015.

# IT IS ABOUT THE TEACHERS' SKILLS: PERCEIVED EFFECTS OF THE EUROPEAN ASSISTANCE ON DROP-OUT RATES IN SLOVAKIA

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## ABSTRACT

*This paper analyses the perceived effects of European assistance on decreasing drop-out rates in Slovakia. The survey (N = 455) was administered to headteachers and directors of primary schools benefitting from European assistance in seventy-nine Slovak districts (LAU 1 level). Simple descriptive statistics and non-parametric tests were used to evaluate the perceived benefits of the European projects, with factor and regression analyses employed to elicit key factors of perceived improvements in drop-out rates. Investments in teachers' cognitive skills were considered more important than those in physical infrastructure, with physical infrastructure (sanitary facilities, new heating and energy efficiency) investments having a rather weak impact on drop-out rates.*

**Keywords:** *student performance, drop-out rates, European Investment and Structural Funds, Slovak Republic*

## 1. INTRODUCTION

### 1.1. European assistance to primary schools in Slovakia

This paper used original survey data to analyse the perceived effects of the European Investment and Structural Funds (ESIF) on the performance of Slovak primary school students. Projects reviewed by this paper were allocated €220.64 m and beneficiaries' evaluations were used to assess projects' perceived impacts on student performance. The paper is structured as follows: Chapter 1 provides a literature review of the effects of additional public spending on improvements in student performance, focusing on investments in teachers' cognitive skills versus capital expenditure. Chapter 2 analyses recent developments in educational outcomes by the Slovak primary school students, with increased drop-out rates being the most negative development in the last five years. Educational outcomes are strongly correlated with students' socio-economic backgrounds in Slovakia, which in turn, has distinctive regional and ethnic dimensions. Chapter 3 introduces European-funded policy interventions aimed at improving student performance and presents key findings from the authors' survey of the beneficiaries of the European projects. The survey participants evaluated the perceived effects of specific policy measures on a variety of educational outcomes.

The factor analysis and ordinary least square regression were applied in Chapter 4 to elicit key factors of perceived improvements in drop-out rates. Finally, the conclusion section summarises the major findings, states some limitations and suggests directions for further research.

## **1.2. Literature review**

Student performance often is associated with school resources, with higher budgets and better classrooms linked to lower drop-out rates. However, if school resources have a consistent and predictable effect on student performance (Hanusek, 1997: 153), there is no univocal agreement that additional spending on education improves educational outcomes. Card and Krueger (1996: 42) noted that while ‘most of the literature on test scores points to little, if any, effect of school resources, some observational studies and one actual experiment have found a connection’. International comparisons indicated that while institutional differences and family background considerably impact student performance, the relationship with resources is dubious and weak at best’ (Wößmann, 2003: 156). The evidence regarding the effects of school resources remains inconclusive, with some authors finding no systematic evidence (Hanusek, 2003), while others argue that additional funding boosts student performance. For example, Hyman (2017) found that additional annual spending increases the probability of enrolling in college. Both expenditure and educational outcomes can be measured in many different ways. Additional spending on education, for example, can be channelled to increases in teachers’ salaries and skills, as well as to improvements in school infrastructure. Similarly, there are diverse ways to measure improvements in educational outcomes, such as decreasing drop-out rates, improving student scores, and/or increasing shares of students enrolling in secondary and tertiary education. There is substantial evidence that differences in teacher cognitive skills are strongly associated with international differences in student performance (Hanusek et al., 2019) but no conclusive evidence of the impact of capital expenditure on student performance. Martorell et al. (2016: 28) studied the impact of capital expenditure on math and reading scores, as well as on attendance rates in Texas’ primary and secondary schools, finding ‘little indication that spending on school facilities generates improvements in student achievement’. Other authors found that capital expenditure on school infrastructure has some non-trivial long-term effects on educational outcomes, but these effects take five to ten years to materialise and it is unclear whether these investments generate value for money (Hong & Zimmer, 2016: 155). Lafortune and Schönholzer (2018) estimated that spending four years in a new school increased test scores by 10% of a standard deviation in math, and 5% in English-language arts. Park et al. (2020) studied the negative effects of heat exposure on cognitive skill development as measured via students’ scores in the Programme for International Student Assessment (PISA). They reported that negative effects can be mitigated via investment in air-conditioning, as a 1°F hotter school year reduces that year’s learning by one per cent (Park et al., 2020: 306). Hence, some types of infrastructure investments may improve the learning environment and educational outcomes.

## **2. EDUCATIONAL OUTCOMES OF THE SLOVAK STUDENTS**

Until 2015, the Slovak Republic had a relatively good performance of primary and secondary school students compared to the EU27 average (Eurostat 2022) but this has deteriorated over the last five years. The drop-out rates (shares of early school leavers in total students) varied between 5 to 7 per cent from 2002 to 2015 (Figure 1), with a considerable increase in drop-out rates in Slovakia compared to a decrease for the EU27 from 2016 to 2020. The impact of the socio-economic background on students’ performance is widely acknowledged (Thomson, 2018). The PISA results (OECD, 2019) indicate poor Slovakia’s performance across educational outcomes. The socio-economic background of the Slovak students accounts for a substantial portion of the total variance in average scores and drop-out rates. Indeed, Slovakia had the second-highest difference in average score between the first and last deciles of the



socio-economic background distribution for reading literacy in the 2018 PISA exercise. Academic failure also led to a high proportion of early school leavers (MFSR, 2020: 44), with many students failing to develop analytical and critical thinking (Jurečková & Csachová, 2020). The regional distribution in drop-out rates is strongly correlated with poverty, as well as the presence of the Roma community (Baláž & Jeck, 2019) (Figures 2, 3, 4). Students from the marginalised Roma communities (MRC) accounted for the poorest educational performance, with up to 58 per cent of the Roma community leaving school early (European Union Agency for Fundamental Rights, 2016). The literature review suggested that (i) socio-economic background rather than capital expenditure impacts educational performance, and (ii) impacts of capital expenditure on student performance are not easy to detect.

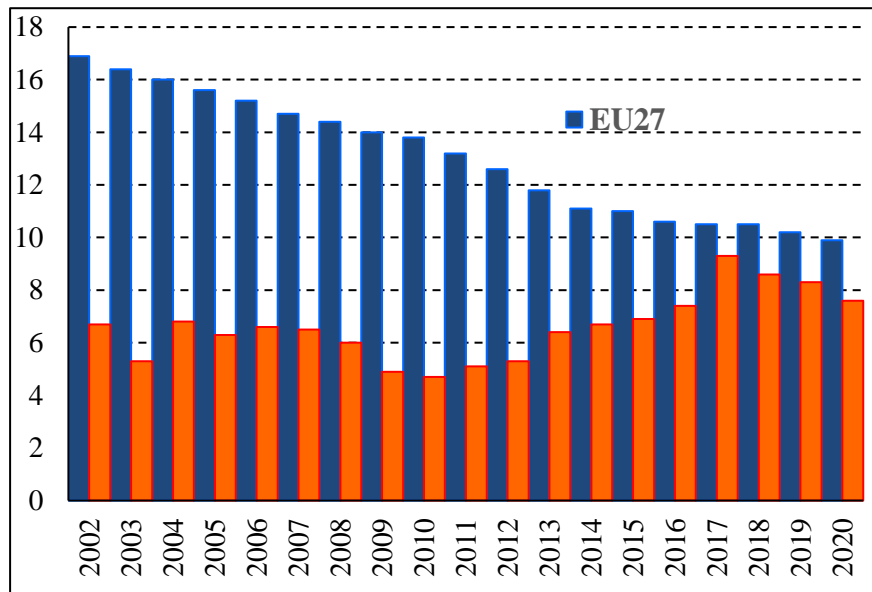


Figure 1: Early leavers from education and training (%)  
(Source: Eurostat (2022))

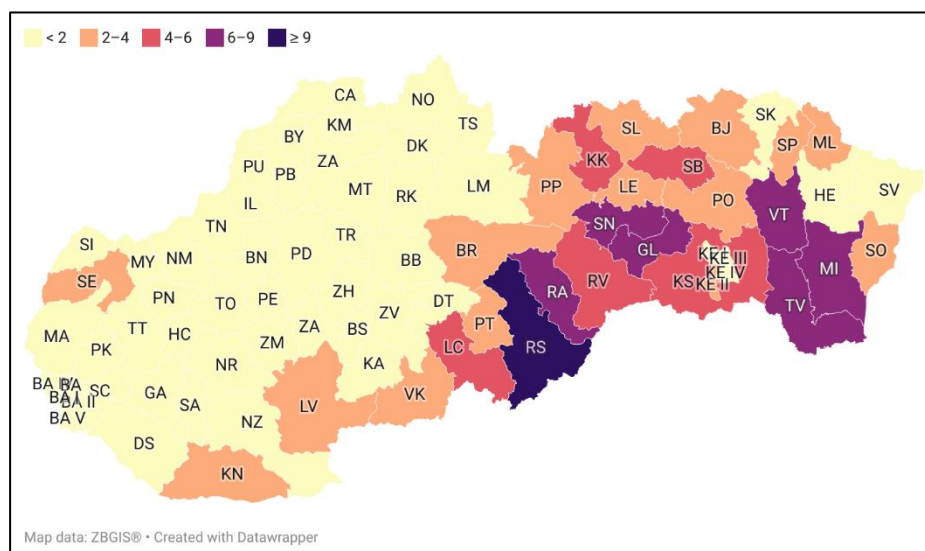


Figure 2: School drop-out rates of 15-year-olds in seventy-nine Slovak districts (%)  
(Source: SCSTI (2022)<sup>1</sup>)

<sup>1</sup> A complete list of Slovak districts, their official codes, as well as information on area and population can be found here: <http://www.statoids.com/ysk.html>

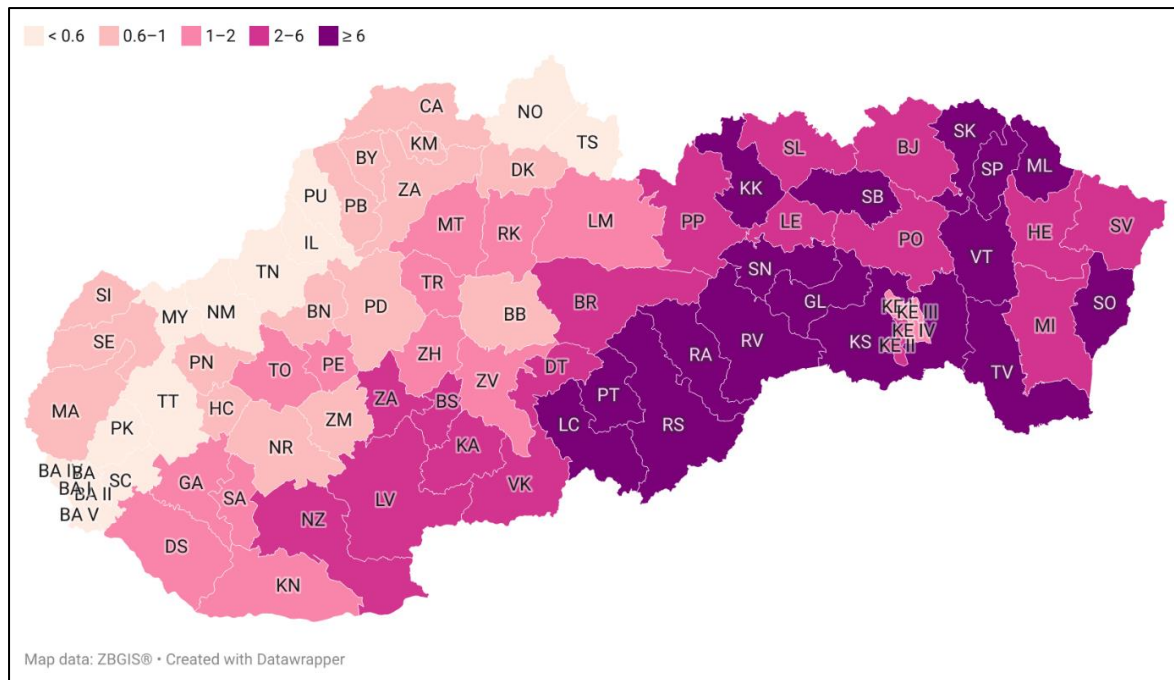


Figure 3: Share of the population in material deprivation in seventy-nine Slovak districts (%)  
(Source: COLSAF (2022))

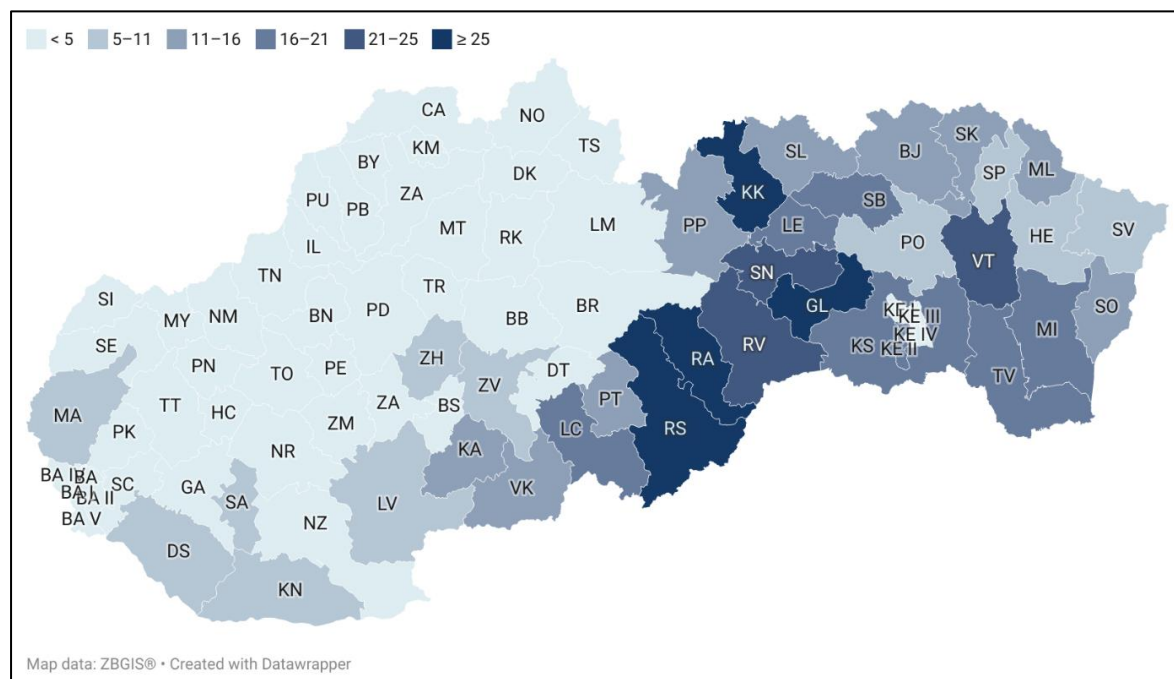


Figure 4: Proportion of the Roma community in the total population in seventy-nine Slovak districts (%)  
(Source: MISR (2019))

### 3. PERCEIVED IMPACTS OF EUROPEAN ASSISTANCE ON EDUCATIONAL OUTCOMES

#### 3.1. European assistance to Slovak primary schools

The Slovak Republic used assistance from the ESIF to improve students' educational outcomes. This assistance was channelled via five Policy Measures from two Operational Programmes: the Operational Programme Education (OPE) and the Regional Operational Programme

(ROP)<sup>2</sup>. Interventions from the OPE mostly focused on ‘soft’ activities, while the ROP supported investments in physical infrastructure:

- **OPE Policy Measures 1.1/4.1<sup>3</sup>:** The key policy objective was ‘performing a curricular reconstruction of education in primary and secondary schools’ and ‘preparing the school leavers for recent and prospective needs of a knowledge-based society, as well as for follow-up education in the system of higher education and continuing education’. This was implemented via four specific activities: (i) innovating content and methods, and raising the quality of education for the labour market needs in a knowledge-based society; (ii) training and continuing education of pedagogical personnel toward acquiring and developing the competencies needed to transform traditional school in a modern one; (iii) improving quality of school administration and management, and stimulating openness to the needs of local communities; and (iv) ensuring the institutional quality of schools and school facilities.
- **OPE Policy Measure 3.1:** The key policy objective was ‘raising the educational level of members of the MRC by facilitating their access to formal education and through continuing education. Specific activities included: (i) supporting social inclusion of the MRC members via facilitating their access to formal education and the acquisition of skills necessary for the labour market, and (ii) continuing education for the MRC members, as well as for the respective field workers.
- **ROP Priority Axis 1:** The key policy goal was to ‘increase in levels of provided services in the field of education. The goal was achieved via two types of activities: (i) reconstruction, expansion and modernisation of selected preschool, elementary and secondary school facilities; and (ii) procurement of equipment, including information and communication technologies (ICT).

### 3.2. Survey design, structure and evaluation

The authors designed and administered a survey to elicit the perceived effects of European assistance on the educational outcomes of Slovak primary school students. The survey targeted 1082 ESIF projects supported by the OPE and ROP Policy Measures in all primary schools benefitting from the assistance in seventy-nine Slovak districts (LAU 1 level). The survey was mailed to the headteachers/directors of the beneficiary schools, or mayors of towns and cities responsible for school administration and 455 questionnaires were returned. Some 128 projects implemented under the OPE 1.1/4.1 Policy Measures invested €15.89 m, 29 projects implemented under the OPE 1.3 Policy Measure invested €4.52 m and 298 projects implemented under the ROP invested €220.23 m. Therefore, physical infrastructure projects received the highest share of allocations. The respondents answered several sets of closed and open questions on a variety of topics but this paper only analyses the questions related to the results of the interventions from the European resources. The questions followed the list of OPE and ROP activities. A pilot sample of headteachers/directors/mayors was used to test the clarity and wording of questions. The responses were coded on a five-point Likert scale: certainly not = 1; rather not = 2; yes and no = 3; rather yes = 4; certainly yes = 5. The Office of the Slovak Government provided the authors with a letter of conveyance that helped to increase response rates. Projects were implemented under five different OPE/ROP Policy Measures and each measure had its own investment objectives. Respondents could tick boxes ‘not applicable’ or ‘do not know’ for policy measures different from their own. The average scores were then used to evaluate the survey findings.

<sup>2</sup> The OPE and ROP projects assisted both primary and secondary schools. This paper focuses on early school leavers from primary education and considers assistance to primary schools only.

<sup>3</sup> The OPE policy measure 4.1 supported schools in the Bratislava (NUTS 3) Region, while measure 1.1 supported those in the non-Bratislava NUTS 3 regions.

### 3.3. Survey results

Results of the beneficiary survey must be considered within the context of the policy goals set for the ROP and OPE policy measures.

#### 3.3.1. Problems identified by project beneficiaries

Project beneficiaries were clear that the ‘inadequate social status of teachers’ was a key problem in their school (Table 1). The average Likert score ranked from 4.3 to 4.4 across all policy measures but the social status of the teachers was not included in the ROP and/or OPE policy priorities. Problems with a lack of qualified personnel and missing opportunities for further education of teachers were considered the least important by the survey participants (most of whom were headteachers/directors) with an average Likert score ranging from 1.7 to 2.0. A substantial portion of the total OPE 1.1/4.1 investments (activities ii and iii in particular) supported courses and further education of teachers. Furthermore, the OECD TALIS survey of teachers and teachers’ conditions (OECD 2020) indicated that Slovak teachers had relatively long professional careers (no. 7 out of the 32 OECD Member Countries) but were the least satisfied with their social status among the OECD Member Countries. Poor technical infrastructure was considered a medium to low problem by survey participants (average Likert scores: 2.3 – 3.0), which was at odds with the ROP substantial capital expenditure. Survey participants also thought that problems with the lack of teaching aids, textbooks and classrooms were medium-important. The most important challenge of Slovak primary education (increases in drop-out rates) received rather limited attention from the respondents. This apparent contradiction is explained by the regional and ethnic dimensions of the drop-out rates. Problems with students’ poor socio-economic background and social inclusion of the Roma students were only considered important in schools implementing projects under OPE 3.1 Policy Measure (average Likert scores: 4.0 and 3.5 respectively). The OPE 3.1 projects targeted regions with high shares of materially deprived communities, and/or MRC and received only 2.1% of the total allocation by the OPE and ROP Policy Measures. Headteachers/directors in poor regions may also have been less skilled in drafting project applications, as most of the total European spending was channelled to developed and semi-developed regions (Figure 5).

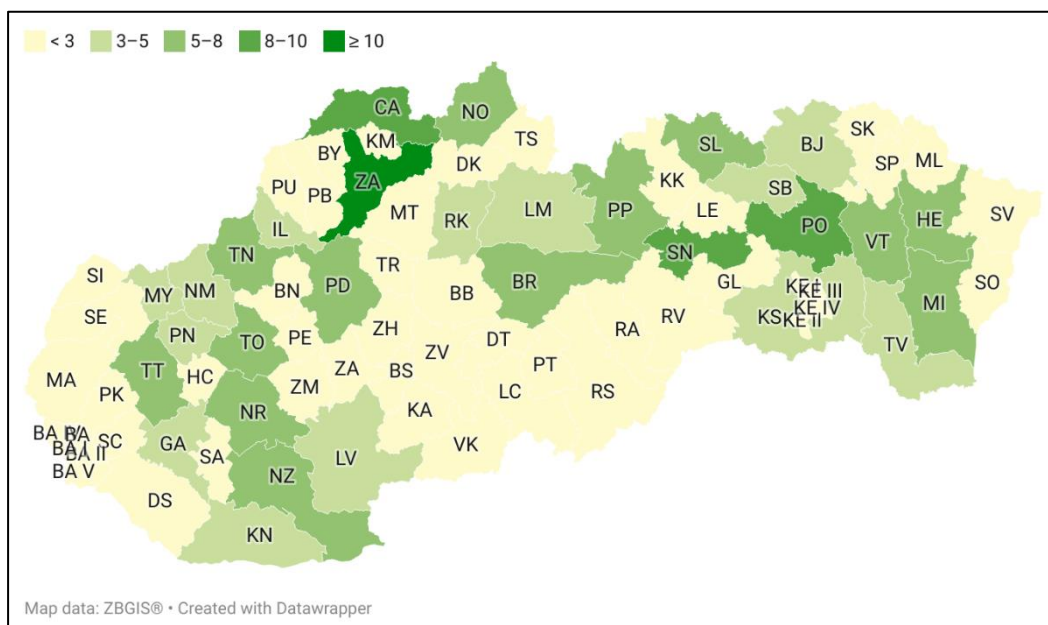


Figure 5: Allocations by the OPE and ROP for 455 projects in seventy-nine Slovak districts (€m).

(Source: authors' computations)

Policy measure	ROP	OPE 1.1/4.1	OPV 3.1
Type of problem	N=298	N=128	N=29
Lack of competent personnel	1.7	1.7	1.3
Lacking opportunities for further training of teachers	2.0	1.9	1.7
Inadequate social status of teachers	4.3	4.4	4.3
Poor technical infrastructure	2.3	3.0	2.6
Lacking teaching aids and textbooks	3.1	3.1	2.6
Lack of special classrooms	3.1	3.4	3.1
Poor socio-economic background of students	3.2	3.2	4.0
Social inclusion of the Roma students	2.7	2.6	3.5

*Table 1: Please indicate key problems your school/institution copes with  
(Source: authors' survey)*

### 3.3.2. Overall satisfaction with project results

The respondents generally expressed high levels of satisfaction with project results in all areas of policy intervention (Table 2, average Likert scores: 4.2 – 4.7):

- The highest rankings were associated with the ROP infrastructure projects (average Likert scores: 4.5), energy efficiency (4.5), and improvements in the working and teaching environment (4.4). The ROP beneficiaries also thought the abovementioned interventions helped increase the teaching quality (4.3).
- Beneficiaries of the OPE 1.1/4.1 projects were most satisfied with the 'increased quality of teaching' (average Likert scores: 4.5), which are in line with the quantitative data on the OPE 1.1/4.1 beneficiaries. Primary schools with OPE 1.1/4.1 projects accounted for lower drop-out rates than schools with no OPE 1.1/4.1 projects, highlighting the self-selection of beneficiaries to the OPE projects. Most assistance was channelled to developed regions, as headteachers, directors and mayors in such regions were more likely to be skilled in drafting project applications than those in underdeveloped regions. The OPE beneficiaries also appreciated the improved working and teaching environment (average Likert scores 4.1), as well as improved teachers' professional skills (4.3). Rather counterintuitively, problems with a lack of competent personnel and opportunities for courses and further training for teachers were considered the least important.
- Beneficiaries of the OPE 3.1 projects valued the improved working and teaching environment (average Likert scores: 4.5), quality of teaching (4.5), and teacher skills (4.0), whereas the respondents assigned medium ranks to 'decreasing drop-out rates' (3.1) and 'increasing shares of students continuing in further level education' (3.1).

The responses indicated that investments in physical infrastructure and teaching environment were not high on the list of priorities, but once implemented, school directors considered these projects useful. The real problems (high drop-out rates and low shares of students continuing in further level education) were also paradoxically only medium-low priorities for teachers, who were more preoccupied with their social status than students' performance. Indeed, the ROP and OPE documents did not identify problems with drop-out rates and continuing education as top areas for policy intervention. This indicates substantial faults in the intervention logic of the ROP and OPE planning documents and an inadequate match of education policy goals and instruments. Nevertheless, the respondents acknowledged the importance of teachers' cognitive skills for decreased drop-out rates.

*Table following on the next page*

	<i>ROP</i>	<i>OPE 1.1/4.1</i>	<i>OPE 3.1</i>
Overall satisfaction	N=298	N=128	N=29
Project targeted real problems of our school/institution	4.2	4.3	4.2
Improved technical infrastructure	4.5	4.0	3.9
Increased energy efficiency and energy savings	4.5	2.7	2.5
Built so far missing special classrooms	3.4	3.8	3.8
Decreased drop-out rates	2.3	2.4	3.1
Improved working environment for teachers and students	4.4	4.1	4.5
Increased percentage of students who continue in further education	3.0	3.2	3.1
Improved performance of students	3.3	3.8	3.6
Improved educational performance by the Roma students	2.8	3.2	4.0
Helped to improve the quality of teaching	4.3	4.5	4.5
Helped to improve professional skills of teachers	3.5	4.3	4.0

*Table 2: Please indicate your overall satisfaction with the results of your project supported by European resources  
(Source: authors' survey)*

The relationship between problems perceived by schools and the results of projects supported by European resources was examined via the Goodman-Kruskal Gamma coefficient of ordinal correlation. The Gamma values higher than 0.400 indicate a medium-strong relationship between variables, with values over 0.600 indicating a strong relationship. The best match between the problem and result was found for students' low socio-economic background and/or social inclusion of Roma students with decreases in drop-out rates (Gamma: 0.538 and 0.600 respectively). Projects targeting the students' socio-economic background and/or supporting the inclusion of Roma students also helped to improve the educational results of Roma students (Gamma: 0.632 and 0.610 respectively).

<i>Result / Problem</i>	<i>Poor technical infrastructure</i>	<i>Lack of teaching aids</i>	<i>Socio-economic background of students</i>	<i>Inclusion of Roma students</i>
<i>Decreases in drop-out rates</i>			0.538**	0.600**
<i>Improved results in the education of Roma students</i>			0.632**	0.610**
<i>Increased shares of students continuing onto further level education</i>	0.394**	0.319**		
<i>Improved work with Roma students</i>			0.454**	

*Table 3: Major ordinal correlations for problems perceived by schools and project results  
Note: \*\* significant on 0.05 level*

#### 4. PERCEIVED EFFECTS OF EUROPEAN ASSISTANCE: FACTOR AND REGRESSION ANALYSIS

The factor and regression analyses were conducted to obtain comprehensive insights into the perceived effects of European assistance on the students' performance. We were particularly interested in whether there was a relationship between the perceived decreases in drop-out rates and other benefits, so the perceived decreases in drop-out rates were the dependent variable in the regression analysis. First, the independent variables were checked for potential problems with multi-collinearity, that is, that two or more predictor variables are highly correlated, meaning that one can be linearly predicted from the others. Simple bivariate correlations were computed between independent variables. The correlation matrix, for example, indicated high correlations between project contribution to energy savings and overall improvement in technical infrastructure (0.594). To alleviate potential problems with multi-collinearity, the independent variables were used as inputs to the factor analysis to reduce the high number of independent variables to a lower number of factors.



The Varimax rotation method with Kaiser normalisation reduced nine independent variables to three factors (Table 4), which explained 66.12% of the total variance in the nine variables. Bartlett's test of sphericity and the Kaiser-Meyer-Olkin Measure of Sampling Adequacy indicated the good fit and reliability of the model (Table 4).

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.07	34.06	34.06	3.07	34.06	34.06	2.33	25.81	25.87
2	1.99	22.10	56.16	1.99	22.10	56.16	1.95	21.65	47.52
3	0.88	9.96	66.12	0.90	9.96	66.12	1.68	18.60	66.12

*Table 4: Factor analysis, total variance explained*

*Extraction Method: Principal Component Analysis. Kaiser-Meyer-Olkin Measure of Sampling Adequacy 0.741; Bartlett's Test of Sphericity Approx. Chi-Square 513.269; df 36, Sig.0.000.*

The rotated component matrix (Table 5) indicated three distinctive factors:

- Factor 1 loaded on the educational performance of Roma and other students, as well as improvements in teachers' professional skills. The factor was labelled 'teacher skills and student performance' and explained the highest share (25.87%) of the total variance, indicating how much teachers' skills correlate with students' performance in primary schools.
- Factor 2 loaded on the soft and hard components of the teaching environment, such as special classrooms, quality of teaching and general working environment for the teachers and students. The factor was labelled 'teaching environment' and explained 21.65% of the total variance.
- Factor 3 combined two variables on the hard infrastructure of the primary schools: energy supply and overall technical infrastructure. The factor was labelled 'physical infrastructure' and explained 18.60% of the total variance.

	Component		
	1	2	3
Project improved performance of students	0.876	0.139	0.029
Project improved educational performance by the Roma students	0.859	-0.024	0.029
Project helped to improve the professional skills of teachers	0.616	0.356	-0.352
Project targeted real problems of our school / institution	-0.022	0.704	0.161
Project improved working environment for teachers and student	0.048	0.663	0.342
Project helped to build so far missing special classrooms	0.424	0.634	-0.029
Project helped improve teaching quality	0.505	0.595	-0.119
Project increased energy efficiency and energy savings	-0.071	0.017	0.869
Project improved technical infrastructure	0.005	0.331	0.797

*Table 5: Rotated component matrix*

*Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalisation Rotation converged in six iterations*

These factor scores were inputs in the ordinary linear regression (OLS) and the results are reported in Table 6. The table reports values and significance levels for the unstandardised (*B*) and standardised (*Beta*) regression coefficients. The standardised regression coefficients enable direct comparison of the importance of the three factors, helping to determine which

independent variable has more impact on the change in a dependent variable. The three independent variables (factor scores) explained 34.2 per cent of the total variance in the dependent variable (drop-out rates). The *Beta* coefficient for factor score ‘teacher skills and student performance’ was 0.578, while the ‘teaching environment’ and ‘physical infrastructure’ were 0.072 and 0.115 respectively. The factor score for Factor 1 was significant on the 0.000 level, while Factors 2 and 3 were only on the 0.244 and 0.062 levels, respectively. In other words, teachers’ skills and related improvements in performance by the Roma and other students were key to the perceived decrease in overall drop-out rates in Slovak primary schools. The improved teachers’ skills impacted the dependent variable (drop-out rates) more than improvements in the soft and hard infrastructure. Improvements in students’ performance (and Roma students in particular), as mediated via improvements in teachers’ skills, were by far the most important factor for decreased drop-out rates. Improved teachers’ professional skills at least partly mitigated the negative impact of students’ socio-economic backgrounds. The finding was highly significant ( $p = 0.000$ ), and the effect size (*Beta* coefficient 0.578) was five times higher than physical infrastructure.

	Unstandardised Coefficients		Standardised Coefficients	<i>t</i>	Sig.
	<i>B</i>	Std. Error	<i>Beta</i>		
Constant	2.550	0.077		33.206	0.000
Factor 1 teacher skills and student performance	0.716	0.076	0.578	9.445	0.000
Factor 2 teaching environment	0.090	0.077	0.072	1.169	0.244
Factor 3 physical infrastructure	0.143	0.076	0.115	1.885	0.061
Adjusted R Square: 0.342					

Table 6: Regression analysis. Dependent variable: The project decreased drop-out rates

## 5. CONCLUSIONS

### 5.1. Key findings

This paper analysed teachers’ perceptions of the impact of European assistance on the educational outcomes of Slovak primary school students. The survey indicated that teachers’ professional skills rather than school resources were responsible for decreasing drop-out rates in Slovak primary schools. The regression analysis should be understood in the context of the Slovak students’ socio-economic background, as most early school leavers came from regions with substantial levels of poverty and/or high shares of the marginalised Roma communities. Investments in the teaching environment (classrooms, teacher rooms) were welcomed but could not compensate for student poverty or poor living conditions. Investments in physical infrastructure (sanitary facilities, new heating and energy efficiency) had some rather weak effects on drop-out rates, as the improved physical infrastructure increased students’ general comfort and helped them to concentrate on learning, in line with Park et al. (2020).

### 5.2. Limitations

This research has some notable limitations. There are 1481 primary schools providing education in grades one to nine in Slovakia (SCSTI 2022) and we received 455 survey responses, about one-third of the total number of primary schools. It is also difficult to determine how representative our sample of primary schools is for such schools in Slovakia but all schools surveyed had applied for and benefited from European assistance. Participation in the European programmes may have been conditional on the skills of the school administrators. The qualitative research analysed teachers’ perceptions and it was assumed that the headteachers, school directors and town mayors were best placed to directly observe the impact of the interventions.



Qualitative research cannot provide quantitative evidence on the impacts of policy interventions or compensate for the lack of causal inference produced by standard evaluation methods, such as difference-in-differences or synthetic control methods.

### 5.3. Directions for further research

Data regarding public support (including European assistance) and educational outcomes (including drop-out rates) are published for individual primary schools in Slovakia, so there is an opportunity to link these data with the survey results to compare the soft data (teachers' perceptions) to the hard data (drop-out rates and test scores). The data are published on annual basis, so it would be interesting to follow the potential long-term effects of the European assistance on specific types of educational outcomes, such as drop-out rates, test scores and secondary school enrolment rates.

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### LITERATURE:

1. Baláž, V., & Jeck, T. (2019). Socioeconomic background versus public support: what matters for the student performance? *Economic and Social Development: Book of Proceedings*, 156-164.
2. Card, D. and Krueger, A.B. (1996). School Resources and Student Outcomes: An Overview of the Literature and New Evidence from North and South Carolina. *The Journal of Economic Perspectives*, 10(4), 31-50.
3. COLSAF, Central Office of Labour, Social Affairs and Family (2022): Štatistiky (Statistics), available at: [https://www.upsvr.gov.sk/statistiky.html?page\\_id=1247](https://www.upsvr.gov.sk/statistiky.html?page_id=1247)
4. European Union Agency for Fundamental Rights, 2016. Second European Union Minorities and Discrimination Survey (EU-MIDIS II) Roma — Selected findings. Publications Office of the European Union, Luxembourg. available at: <http://fra.europa.eu/en/publication/2016/eumidis-ii-roma-selected-findings>
5. Eurostat (2022): Early leavers from education and training by sex. Available at: <https://ec.europa.eu/eurostat/data/database>
6. Hanushek, E. A. (1997). Assessing the effects of school resources on student performance: An update. *Educational evaluation and policy analysis*, 19(2), 141-164.
7. Hanushek, E. A. (2003). The failure of input-based schooling policies. *The Economic Journal*, 113(485), F64-F98.
8. Hanushek, E.A., Marc Piopiunik, M. and Wiederhold, S. (2019). The value of smarter teachers international evidence on teacher cognitive skills and student performance. *Journal of Human Resources*, 54(4), 857-899.
9. Hong, K., & Zimmer, R. (2016). Does investing in school capital infrastructure improve student achievement? *Economics of Education Review*, 53, 143-158.
10. Hyman, J. (2017). Does money matter in the long run? Effects of school spending on educational attainment. *American Economic Journal: Economic Policy*, 9(4), 256-80.
11. Jackson, C. Kirabo (2020). Does school spending matter? The new literature on an old question. National Bureau of Economic Analysis, Working Paper 25368, *American Psychological Association*, 2020.
12. Jurečková, M., & Csachová, L. (2020). Statistical literacy of Slovak lower secondary school students. *Technium Social Science Journal.*, 9, 163.
13. Lafortune, J., & Schonholzer, D. (2018). Do school facilities matter? Measuring the effects of capital expenditures on student and neighbourhood outcomes. *Public Policy Institute of California*, Los Angeles.

14. Martorell, P., Stange, K., & McFarlin Jr, I. (2016). Investing in schools: capital spending, facility conditions, and student achievement. *Journal of Public Economics*, 140, 13-29.
15. MFSR, Ministry of Finance of the Slovak Republic (2020): *National Reform Programme of the Slovak Republic 2020*, MFSR Bratislava, May 2020.
16. MISR, Ministry of Interior of the Slovak Republic (2019): *Atlas rómskych komunít 2019*, available at: <https://www.minv.sk/?atlas-romskych-komunit-2019>
17. OECD (2019) *PISA 2018 Results (Volume II): Where All Students Can Succeed*, OECD Publishing, Paris
18. OECD (2020). *TALIS 2018 Results (Volume II): Teachers and School Leaders as Valued Professionals*, TALIS, OECD Publishing, Paris,
19. Park, R. J., Goodman, J., Hurwitz, M., & Smith, J. (2020). Heat and learning. *American Economic Journal: Economic Policy*, 12(2), 306-339.
20. SCSTI, Slovak Centre of Scientific and Technical Information (2022): *Štatistiky (Statistics)*. Available at: <https://www.cvtisr.sk/>
21. Thomson, S. (2018). Achievement at school and socioeconomic background—an educational perspective. *npj Science of Learning*, 3(1), 1-2.
22. Wößmann, L. (2003). Schooling resources, educational institutions and student performance: the international evidence. *Oxford Bulletin of Economics and Statistics*, 65(2), 117-170.

## THE IMPACT OF REMITTANCES ON ECONOMIC GROWTH – AN OVERVIEW OF SELECTED RESEARCH ACHIEVEMENTS

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### ABSTRACT

*Numerous papers have examined the relationship between remittances from migrants and the contribution this has towards development. Considering the importance and actuality of the topic, we decided to make an overview of selected achievements in the research of remittance impact on economic growth. Due to the fact that a high ratio of remittances remains officially unrecorded, the officially-reported figures accounting for roughly 35-75 percent of the total volume of remittance flows, it is possible only to predict the importance of remittances on economic growth, nevertheless, these predictions are based on relevant scientific research and methods. Overall, the existing literature provides inconsistent accounts as to how remittance inflows specifically influence economic growth. A significant number of articles suggest that through unintended consequences such as the Dutch Disease, remittance inflows may actually hamper economic growth. On the other hand, a number of authors suggests that remittance inflows do contribute to economic activity by alleviating poverty and enabling investment activities to take place.*

**Keywords:** *remittances, economic growth, work migration, foreign direct investment (FDI), panel ARDL approach*

### 1. INTRODUCTION

Remittances represent an even more important factor in international economy and their impact on the economic growth is continuously rising. Considering the importance and actuality of the topic, we decided to make an overview of selected achievements in the research of remittance impact on economic growth. Because the remittances remain “a grey area” regarding the fact that a significant proportion of them remain officially unrecorded hence the money trail cannot be continuously followed, it is not possible to completely accurately calculate the sheer volume of remittances. Much of the existing literature has reached different conclusions about the impact of remittances because of omitted variable bias as many studies omit either FDI, foreign aid or remittances. For example, Ordinary Least Squares (OLS) and General Method of Movement (GMM) approaches employed by much of the existing literature to estimate the impact on GDP is not fully valid given that they fail to capture the spatial interdependence of economic growth. Other research has used panel-based approach when studying remittances. As the factors that influence the flows of remittances, the authors emphasize the easiness of money transfers as well as corruption.

### 2. LITERATURE REVIEW

As noted earlier, numerous papers have examined the relationship between remittances from migrants and the contribution this has towards development (Page and Plaza, 2005; Freund and Spatafora, 2005; Nwaogu and Ryan, 2015; Pradhan, 2016). The analysis of the contribution of remittances to development is studied either through surveys or with a combination of econometric methods that then often consider foreign direct investment (FDI) and other

external capital inflows as well. Pradhan (2016) considers the emerging economies of India, China, the Russian Federation, Brazil, and the South African Republic. The author emphasizes that remittance inflows as a percentage of GDP has the strongest contribution to the economic growth of India as remittance inflows have increased from 1.175% of GDP in 1993 to 4.25% of GDP in 2013 (Pradhan, 2016). By adapting a panel cointegration approach, Pradhan (2016) does not find any link between remittance and economic growth but indicates that there is a possibility of long-run causality existing. Freund and Spatafora (2005) examine the volume of remittances being unreported and emphasize that the officially-reported figures account for roughly 35 – 75 percent of the total volume of remittance flows. Their conclusions are based on an approach that combines surveys as well as an analysis of the existing data (Freund and Spatafora, 2005). The reasons for the discrepancy between the formal and informal figures was investigated by Page and Plaza (2006) in an article that attempted to capture numerous possibilities and policy solutions concerning migration. The authors emphasized that the formal value of remittances was probably unreported given that many of the countries that had high remittance inflows did not have regulation requiring the declaration of ‘‘small’’ transfers (Page and Plaza, 2006). Page and Plaza (2006) also argue that transfers taking place through informal agents may be difficult to track and are therefore being unreported. The authors provide a highly wide overview of migration policies and emphasize that countries such as Ireland and Thailand offered sources of funding to highly skilled workers in an attempt to try and reverse the loss of highly travelled labourers (Page and Plaza, 2006). Nwaogu and Ryan (2015) examined the influence of remittance and FDI inflows and explain the distinguishing arguments of how remittances influence economic growth. On the one hand, remittance flows aid in the disposable income of those often in poverty and enable them to contribute to economic activity, but the fact that these remittances exist is usually a sign that high-qualified labourers have left the economy (Nwaogu and Ryan, 2015). The arguments of Freund and Spatafora (2005) are also significant here given the high volume of remittances that are never even measured by the formal economy, but this does not diminish the poverty-diminishing impact of remittances. Nwaogu and Ryan (2015) argue that much of the existing literature has reached different conclusions about the impact of remittances because of omitted variable bias as many studies omit either FDI, foreign aid or remittances. The authors further argue that Ordinary Least Squares (OLS) and General Method of Movement (GMM) approaches employed by much of the existing literature to estimate the impact on GDP is not fully valid given that they fail to capture the spatial interdependence of economic growth (Nwaogu and Ryan, 2015). As a result, the authors implement a dynamic spatial-lag model and conclude that remittances do not have a statistically significant link to economic growth in a panel of African countries, while they do find evidence of such links in the Latin American and Caribbean countries they observed. Nwaogu and Ryan (2015) note that such findings are highly different compared to much of the existing literature that has found empirical links between remittances and economic growth in Africa. Padhan et al. (2022) consider whether corruption may be a problematic factor that causes economies to be underdeveloped even in the case where significant inflows of foreign capital including remittances are present. The authors employ an ARDL model to analyse the impact of the selected variables that include domestic factors as well as external capital flows including FDI and remittances in India in the period between 1996 and 2016 (Padhan et al., 2022: 15). Padhan et al. (2022) have determined that there is both a positive link between remittances and economic growth in both the short as well as the long-term, but that this link is more pronounced in the short-term. While the authors believe that rising corruption is a problem that may hamper the Indian economy at any point in the near future, they have not determined an immediate drawback that could hamper the ability of remittance inflows to generate meaningful economic activity (Padhan et al., 2022: 17).

Ahortor and Adenutsi (2009) find that there is a significant link between remittance inflows and economic growth by utilizing a panel regression approach that includes sub-Saharan Africa, Latin America, and the Caribbean. Similar to the study conducted by Nwaogu and Ryan (2015), the authors find the positive impact of remittance inflows to be more significant in Latin America and the Caribbean (Ahortor and Adenutsi, 2009). The authors believe it is necessary for policy-makers to focus more on detecting informal remittance flows and to establish a system that will help channel remittances into the formal sector (Ahortor and Adenutsi, 2009). Meyer and Shera (2017) examine the impact of remittance inflows on economic growth in a panel of countries including Albania, Bulgaria, Macedonia, Moldova, Romania and Bosnia Herzegovina. The authors implement a panel regression approach and find that remittance inflows positively influence economic growth in the observed countries (Meyer and Shera, 2017). Khan et al. (2022) consider the role of remittances, foreign aid, and other foreign capital inflows on the economic growth and poverty alleviation in the Middle East and North Africa (MENA) countries in the period between 1991 and 2019. The authors have determined that remittance inflows rather than foreign aid have had a more profound impact in decreasing poverty in the MENA countries (Khan et al., 2022). The authors have employed a panel regression approach as well as a system GMM to ensure the validity of their results and the specification of their models (Khan et al., 2022: 14). The authors believe that the MENA countries will have significant challenges in the long-run given the pressure for privatization that may hamper recent successes in minimizing the poverty rate (Khan et al., 2022). Other authors have noted other potential unintended consequences of remittance flows such as through an increase in the value of the exchange rate or through that of rising consumer goods (Amuendo-Dorantes and Pozo, 2004; Cáceres and Saca, 2006; Acosta et al., 2009). Cáceres and Saca (2006) conducted an analysis of the impact of remittance inflows on the economy of El Salvador through a vector autoregression (VAR) model. The authors utilize an Impulse Response Function (IRF) to determine the impact of remittance inflows and find them to have a negative impact on economic growth (Cáceres and Saca, 2006). The authors concluded that this happened as a result of the remittance inflows being used to purchase mostly products that were being imported (Cáceres and Saca, 2006). As a result, Cáceres and Saca (2006) explain that with the necessity for further imports, there was no real positive impact for domestic communities as the prices of different consumer goods continued to increase. Amuendo-Dorantes and Pozo (2004) also argue that remittance inflows have adversely impacted economic growth in a panel of Latin American and Caribbean countries. The authors argue that the negative impact is possible as a result of currency appreciation caused by greater remittance inflows (Amuendo-Dorantes and Pozo, 2004). Through a panel regression model that included other relevant variables such as foreign aid, technological growth, government expenditures, terms of trade, and the world real interest rate, Amuendo-Dorantes and Pozo (2004) conclude that the remittance inflows contributing to appreciation of the real interest rate. Ziberi and Alili (2021) emphasize that the sources of growth in the Western Balkans are often highly contested and they consider a panel of countries that includes Kosovo, Bosnia and Hercegovina, Serbia, Macedonia, Albania and Montenegro between 2010 and 2019. Utilizing a panel regression approach, the authors consider an array of variables including FDI, corruption, and population growth and estimate the impact these factors have on economic growth (Ziberi and Alili, 2021:73). The authors conclude that remittance inflows do contribute to economic growth and that they have an investment capacity (Ziberi and Alili, 2021). It should be noted that for the FE regression panel approach implemented by the authors, a stationarity check of the variables should have been performed. In addition, the rather low R-value of the model of 0.34 would indicate that other variables rather than those selected by the authors may have a more relevant role in determining the economic growth of the countries they had selected. Acosta et al. (2009) highlight the dual nature of the impact of remittance inflows on developing economies.

As discussed by the authors, the remittance inflows helped decrease absolute poverty, aided in human capital development, and potentially account for at least 2.1% of the GDP of the developing world (Acosta et al., 2009). The authors also note the potential for drawback deriving from the remittance inflows because of the Dutch Disease, as a surge in consumer spending leads to higher demand and an increase in the value of non-tradable goods as a result of the appreciation of the exchange rate (Acosta et al., 2009). The authors also consider the argument that higher remittances tend to be associated with a lowering labour supply, largely as many individuals do not have to work low-wage jobs, but this loss of labour can then contribute to higher prices for goods and services (Acosta et al., 2009). All of these factors highlight the complicated macroeconomic impact of remittances on the economy. The results of the authors are similarly complex as the authors examine quarterly data for El Salvador for the period of 1991-2006 by utilizing a Bayesian estimation method and VAR IRFs. Acosta et al. (2009) conclude that even if the remittances were utilized for investment purposes, they would still contribute to the development of the Dutch Disease but that they also contribute to a welfare gain in El Salvador. Similarly, Yang (2008) highlights that the existing literature does not have a consensus on the impact of remittance inflows and that many argue that these inflows are rarely channelled into investments that could meaningfully contribute to the aggregate economy. In his study of Philippines, Yang (2008) examined 1,646 households in the Philippines that had at least one family member overseas and who was sending in remittances through a regression analysis. Yang (2008) concluded that the households observed did not primarily use remittance inflows for usual consumer goods but that these inflows contributed to a rise of human capital and investment activity. As a result, Yang (2008) believes that workers who are sending in remittances can contribute to poverty alleviation and entrepreneurial activities in their home country. Nyamongo et al. (2012) considered the influence of remittance inflows in Africa and reiterate that remittance inflows are surging and have become even more significant for economic development compared to previously important determinants such as foreign aid and FDI. In examining a panel of 36 Sub-Saharan African states, the authors constructed a model that also considers human capital formation, inflation, and the openness of the economy in promoting economic growth (Nyamongo et al., 2021). The authors find that the influence of remittances on economic growth is positive, but that more emphasis should be placed on ensuring that these inflows take place through formal channels (Nyamongo et al., 2021). El Hamma (2017) examined how remittances impact economic growth in 11 South-Mediterranean countries in the period between 1984 and 2014. The author applied a research approach based on GMM and contrasted the differences between how countries with better-developed institutions were impacted in comparison to countries that had issues with faith in institutions or corruption (El Hamma, 2017). El Hamma (2017) did not find evidence of a direct link between remittance flows and economic growth, but the author concluded that there was evidence that institutional stability was a precondition for achieving economic growth associated with FDI or remittance inflows. Odugbesan et al. (2021) conducted an analysis of remittance inflows on the economic growth of the MINT (Mexico, Indonesia, Nigeria, and Turkey) countries from 1980-2019. By utilizing a panel ARDL approach, the authors examined the influence of remittance inflows on GDP and concluded that remittance inflows positively impact economic growth and stimulate investment activities (Odugbesan et al., 2021). The authors believe that their inclusion of a variable for financial development calculated by the IMF presented a significant inclusion to past models that used various proxy variables to account for financial development (Odugbesan et al., 2021). Azam (2015) examined the impact of remittance inflows in Bangladesh, India, Pakistan and Sri Lanka through a regression model. By examining the data including investment into infrastructure and FDI inflows, Azam (2015) implemented the model and concluded that remittance inflows positively contributed to the economic growth of all of the observed countries through higher

consumer spending and investment. Azam (2015) did take note of potential social problems such as younger individuals whose parents work abroad and who may have their income needs addressed, but which may lack oversight. While the author reinforces the need for both informal and formal remittance flows, the model itself only covered formal remittance flows (Azam, 2015). Thus, it is important to note the minor disconnect between the theoretical justification of the author and the lacking justification in the empirical results. Bettin and Zazzaro (2011) examined the impact of remittance inflow on the financial sector as the authors argue that the viability of the financial sector is essential for the capacity of the economy to absorb foreign inflows. By utilizing OLS and GMM models, the authors estimated the contribution of remittance on economic growth in a panel of 66 countries from 1970 – 2005 (Bettin and Zazzaro, 2011: 5). Overall, the authors find that the impact of remittance inflows on economic growth is positive as they relax liquidity concerns, guarantee access to capital, and aid in the development of growth activities (Bettin and Zazzaro, 2011). The model was based on the work of Giuliano and Ruiz-Arranz (2005) who have also emphasized that there were some instances where migrants returned to their home countries and began different investment activities. The analysis of the authors considers 100 countries in the period of 1975 – 2002 and Giuliano and Ruiz-Arranz (2005) utilizes a GMM, fixed method regression, and OLS regression which determined that the overall impact of remittance inflows on economic growth was positive. Giuliano and Ruiz-Arranz (2005) explained that the influence of remittances is particularly positive in underdeveloped countries where it helps alleviate liquidity concerns and consumption smoothing. The authors determined that the overall impact of remittance inflows is less beneficial in developing countries and believe that the institutional impact of development deriving from remittance inflows is not sufficiently investigated (Giuliano and Ruiz-Arranz, 2005). Abida and Shgaier (2014) examined the impact of remittance inflows on economic growth in a panel of North African countries between 1980 and 2011. The findings were comparable with those of Odugbesan et al. (2021) as Abida and Shgaier (2014) believe that the key factor in ensuring that remittances can have a positive impact on economic growth are the development of the financial sector. By utilizing a GMM approach, Abida and Shgaier (2014) conclude that remittance inflows can act as substitutes for factors that should be promoting economic growth in countries that have an underdeveloped financial sector. Otherwise, the authors believe that the impact of remittance inflows is positive on economic growth (Abida and Shgaier, 2014). Fayissa and Nsiah (2010) examined the relevance of remittance for economic growth in a panel of Sub Saharan countries and concluded that the impact of remittance is positive. According to Fayissa and Nsiah, even when remittance inflows are only used to substitute consumer spending, these forms of spending can be beneficial for the aggregate economy as they increase physical and human capital. The approach by the authors is based on a GMM framework where the basic model is constructed based on a modified Cobb-Douglas production (Fayissa and Nsiah, 2010). Goschin (2014) examined the impact of remittances on a panel of Central European countries in a time period between 1996 and 2011. The author concluded that remittance inflows are another valid option in achieving economic growth and that the remittance inflows is enough to offset the costs of labour (Goschin, 2014). It should be noted that the author does not consider the human capital loss of highly trained labour and that the underlying effects are only tested on a macroeconomic level.

### 3. CONCLUSIONS

Overall, the existing literature provides inconsistent accounts as to how remittance inflows specifically influence economic growth. A significant number of articles suggest that through unintended consequences such as the Dutch Disease, remittance inflows may actually hamper economic growth. On the other hand, a number of authors suggests that remittance inflows do contribute to economic activity by alleviating poverty and enabling investment activities to take

place. In Table 1, we have provided a comparative overview of the consulted research, with a particular objects of interest and main findings.

*Table 1: Comparison of research consulted with objects of interest and main findings*

<b>Consulted research</b>	<b>Object of interest</b>	<b>Main findings</b>
Abida, Z. & I.M. Shgaier. (2014).	Abida and Shgaier (2014) examined the impact of remittance inflows on economic growth in a panel of North African countries between 1980 and 2011.	The key factor in ensuring that remittances can have a positive impact on economic growth are the development of the financial sector.
Acosta, P.A., Lartey, A.K. & F. Mandelman. (2009).	The dual nature of the impact of remittance inflows on developing economies. All of these factors highlight the complicated macroeconomic impact of remittances on the economy.	The remittance inflows helped decrease absolute poverty, aided in human capital development, and potentially account for at least 2.1% of the GDP of the developing world. The authors also note the potential for drawback deriving from the remittance inflows because of the Dutch Disease, as a surge in consumer spending leads to higher demand and an increase in the value of non-tradable goods as a result of the appreciation of the exchange rate. The authors also consider the argument that higher remittances tend to be associated with a lowering labour supply, largely as many individuals do not have to work low-wage jobs.
Amuendo-Dorante, C. & S Pozo. (2004).	Remittance inflows have adversely impacted economic growth in a panel of Latin American and Caribbean countries. The authors argue that the negative impact is possible as a result of currency appreciation caused by greater remittance inflows.	The remittance inflows contributing to appreciation of the real interest rate.
Ahortor, C.R.K. & D.E. Adenutsi. (2009).	Remittance inflows and economic growth by utilizing a panel regression approach that includes sub-Saharan Africa, Latin America, and the Caribbean.	The positive impact of remittance inflows to be more significant in Latin America and the Caribbean. The authors believe it is necessary for policy-makers to focus more on detecting informal remittance flows and to establish a system that will help channel remittances into the formal sector.
Azam, M. (2015).	The impact of remittance inflows in Bangladesh, India, Pakistan and Sri Lanka through a regression model.	Remittance inflows positively contributed to the economic growth of all of the observed countries through higher consumer spending and investment.
Bettin, G. & A. Zazzaro. (2011).	The impact of remittance inflow on the financial sector. The contribution of remittance on economic growth in a panel of 66 countries from 1970 to 2005.	The viability of the financial sector is essential for the capacity of the economy to absorb foreign inflows. The impact of remittance inflows on economic growth is positive as they relax liquidity concerns, guarantee access to capital, and aid in the development of growth activities.



Cáceres, L.R. & N.N. Saca. (2006).	An analysis of the impact of remittance inflows on the economy of El Salvador through a vector autoregression (VAR) model.	The remittance inflows and find them to have a negative impact on economic growth, as a result of the remittance inflows being used to purchase mostly products that were being imported.
El Hamma, I. (2017).	Remittances' impact on economic growth in 11 South-Mediterranean countries in the period between 1984 and 2014. How countries with better-developed institutions were impacted in comparison to countries that had issues with faith in institutions or corruption.	No evidence of a direct link between remittance flows and economic growth was found, but the author concluded that there was evidence that institutional stability was a precondition for achieving economic growth associated with FDI or remittance inflows.
Fayissa, B. & C. Nsiah. (2010).	The relevance of remittance for economic growth in a panel of Sub Saharan countries.	The impact of remittance is positive. Even when remittance inflows are only used to substitute consumer spending, these forms of spending can be beneficial for the aggregate economy as they increase physical and human capital.
Freund, C. & N. Spatafora. (2005).	The volume of remittances being unreported and the reasons why.	The officially-reported figures account for roughly 35 – 75 percent of the total volume of remittance flows.
Giuliano, P. & M. Ruiz-Arranz. (2005).	100 countries in the period of 1975 – 2002. The influence of remittances is particularly positive in underdeveloped countries where it helps alleviate liquidity concerns and consumption smoothing.	The overall impact of remittance inflows is less beneficial in developing countries and believe that the institutional impact of development deriving from remittance inflows is not sufficiently investigated.
Goschin, Z. (2014).	The impact of remittances on a panel of Central European countries in a time period between 1996 and 2011.	Remittance inflows are another valid option in achieving economic growth and that the remittance inflows is enough to offset the costs of labour.
Khan, R., Haque, M. I., Gupta, N., Tausif, M. R., & I. Kaushik. (2022).	The role of remittances, foreign aid, and other foreign capital inflows on the economic growth and poverty alleviation in the Middle East and North Africa (MENA) countries in the period between 1991 and 2019.	The authors have determined that remittance inflows rather than foreign aid have had a more profound impact in decreasing poverty in the MENA countries. The MENA countries will have significant challenges in the long-run given the pressure for privatization that may hamper recent successes in minimizing the poverty rate.
Meyer, D. & A. Shera. (2017).	The impact of remittance inflows on economic growth in a panel of countries including Albania, Bulgaria, Macedonia, Moldova, Romania and Bosnia Herzegovina.	Remittance inflows positively influence economic growth in the observed countries.
Nwaogu, U.G. & M.J. Ryan. (2015).	The influence of remittance and FDI inflows. The distinguishing arguments of how remittances influence economic growth.	On the one hand, remittance flows aid in the disposable income of those often in poverty and enable them to contribute to economic activity, but the fact that these remittances exist is usually a sign that high-qualified labourers have left the economy.

Nyamongo, E. M., Misati, R. N., Kipyegon, L., & L. Ndirangu. (2012).	The influence of remittance inflows in Africa, through examining a panel of 36 Sub-Saharan African states.	The influence of remittances on economic growth is positive. However, more emphasis should be placed on ensuring that these inflows take place through formal channels.
Odugbesan, J.A., Sunday, T.A. & G. Olowu. (2021).	Remittance inflows on the economic growth of the MINT countries from 1980-2019.	Remittance inflows positively impact economic growth and stimulate investment activities.
Padhan, H., Behera, D. K., Sahu, S. K., & U. Dash. (2022).		
Page, J. & S. Plaza. (2006).	The reasons for the discrepancy between the formal and informal figures of remittances.	The formal value of remittances was probably unreported given that many of the countries that had high remittance inflows did not have regulation requiring the declaration of “small” transfers.
Pradhan, K.C. (2016).	Contribution of remittances to development is studied either through surveys or with a combination of econometric methods that then often consider foreign direct investment (FDI) and other external capital inflows.	No link between remittance and economic growth but there is a possibility of long-run causality existing.
Yang, D. (2008).	Examined 1,646 households in the Philippines that had at least one family member overseas and who was sending in remittances through a regression analysis.	The households observed did not primarily use remittance inflows for usual consumer goods but that these inflows contributed to a rise of human capital and investment activity. Workers who are sending in remittances can contribute to poverty alleviation and entrepreneurial activities in their home country.
Ziberi, B., & M.Z. Alili. (2021).	Ziberi and Alili (2021) emphasize that the sources of growth in the Western Balkans are often highly contested and they consider a panel of Western Balkans states between 2010 and 2019.	The authors conclude that remittance inflows do contribute to economic growth and that they have an investment capacity.

## LITERATURE:

1. Abida, Z. & I.M. Shgaier. (2014). Remittances, Financial Development and Economic Growth: The Case of North African Countries. *The Romanian Economic Journal*, (17) 137-170.
2. Acosta, P.A., Lartey, A.K. & F. Mandelman. (2009). Remittances and the Dutch Disease. *Journal of International Economics*, 79(1) 102-116.
3. Amuendo-Dorante, C. & S Pozo. (2004). Workers’ Remittances and the Real Exchange Rate: A Paradox of Gifts. *World Development*, 32(8) 1407-1417.
4. Ahoritor, C.R.K. & D.E. Adenutsi. (2009). The Impact of Remittances on Economic Growth in Small-Open Developing Economies, *Journal of Applied Science*, 9(18) 3275-3286.
5. Azam, M. (2015). The role of migrant workers remittances in fostering economic growth, *International Journal of Social Economics*, 42(8) 690-705.
6. Bettin, G. & A. Zazzaro. (2011). Remittances and financial development: substitutes or complements in economic growth? *Bulletin of Economic Research*, 64(4) 509-536.

7. Cáceres, L.R. & N.N. Saca. (2006). *What Do Remittances Do? Analyzing the Private Remittance Transmission Mechanism in El Salvador*. IMF Working Paper 06/250.
8. El Hamma, I. (2017). Do political institutions improve the effect of remittances on economic growth? Evidence from South-Mediterranean countries. *Economics Bulletin*, 37(3) 2133-2148.
9. Fayissa, B. & C. Nsiah. (2010). The Impact of Remittances on Economic Growth and Development in Africa. *The American Economist*, 55(2) 92-103.
10. Freund, C. & N. Spatafora. (2005). *Remittances: Transaction Costs, Determinants, and Informal Flows*. Working paper S3704.
11. Giuliano, P. & M. Ruiz-Arranz. (2005). *Remittances, Financial Development, and Growth*. IMF Working Paper 05/234.
12. Goschin, Z. (2014). Remittances as an Economic Development Factor. Empirical Evidence from the CEE Countries. *Procedia Economics and Finance*, 10: 54-60.
13. Khan, R., Haque, M. I., Gupta, N., Tausif, M. R., & I. Kaushik. (2022). How foreign aid and remittances affect poverty in MENA countries? *Plos one*, 17(1) e0261510.
14. Meyer, D. & A. Shera. (2017). The impact of Remittances on Economic growth: An econometric model, *EconomiA*, 18(7) 147-155.
15. Nwaogu, U.G. & M.J. Ryan. (2015). FDI, Foreign Aid, Remittance and Economic Growth in Developing Countries, *Review of Development Economics*, 19(1) 100-115.
16. Nyamongo, E. M., Misati, R. N., Kipyegon, L., & L. Ndirangu. (2012). Remittances, financial development and economic growth in Africa. *Journal of economics and business*, 64(3) 240-260.
17. Odugbesan, J.A., Sunday, T.A. & G. Olowu. (2021). Asymmetric effect of financial development and remittance on economic growth in MINT economies: an application of panel NARDL. *Future Business Journal*, 7.
18. Padhan, H., Behera, D. K., Sahu, S. K., & U. Dash. (2022). Does Corruption Hinderance Economic Growth Despite Surge of Remittance and Capital Inflows Since Economic Liberalization in an Emerging Economy, India. *Journal of the Knowledge Economy*, 1-24.
19. Page, J. & S. Plaza. (2006). Migration Remittances and Development: A Review of Global Evidence. *Journal of African Economies*, (15) 245–336.
20. Pradhan, K.C. (2016). Does remittance drive economic growth in emerging economies: Evidence from FMOLS and Panel VECM. *Theoretical and Applied Economics*, 23(4) 57-74.
21. Yang, D. (2008). International Migration, Remittances, and Household Investment: Evidence from Philippine Migrants' Exchange Rate Shocks. *Economic Journal*, 118, 591-630.
22. Ziberi, B., & M.Z. Alili. (2021). Economic Growth in the Western Balkans: A Panel Analysis. *South East European Journal of Economics and Business*, 16(2) 68-81.

## E-MENTORING AS A SUPERVISION APPROACH IN DISTANCE UX EDUCATION

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### ABSTRACT

*This study aims to analyze the connection between e-mentoring and the impact of this type of supervision during UX students' first-time experience with a real industry project. An interdisciplinary field like User Experience (UX), devoid of its own recognized body of disciplinary knowledge, poses its own educational challenges by requiring a holistic and versatile approach to learning. While traditional education has struggled to meet and adapt to the ever-evolving industry needs in UX, more flexible alternatives within the distance education space have been providing opportunities for students to develop hands-on skills and experience real-life projects for a while. It was in 2020, however, that the interest in online education grew the most, due to COVID-19 and pandemic-induced constraints, especially in tech career paths, such as UX, with the potential to provide profitable work-from-home (WFH) job opportunities. A common learner-centered approach in online UX education is project-based learning (PBL), in which students are involved in both fictional and real projects, with the guidance and support of a mentor. Within this context, we used qualitative research methodology to conduct a thematic content analysis of the following: 10 portfolio industry projects from 10 postgraduate students located in the United States of America who completed an online UX course to complement their education; and 10 session logs of 2 supervisors who mentored them during their 4-week assigned client project. According to the themes which emerged from our analysis, we concluded that being exposed to a safe environment where students were able to experiment with mentors' guidance, helped them develop critical thinking skills, adapt to uncertain circumstances, and gain networking opportunities. Additionally, students struggled with the time available to conduct a real-life project and the inability to apply theoretical concepts within constraints, which implies a cognitive dissonance between the theory and the actual practice of UX. Further research is required to explore how different pedagogical approaches to e-mentoring and supervisory styles may contribute to its quality and the overall impact on the students' learning experience.*

**Keywords:** *e-mentoring, supervision, distance education, user experience (UX), project-based learning (PBL)*

### 1. INTRODUCTION

Distance education presents both advantages and limitations, from providing maximum flexibility to relying on students' self-directed learning abilities and intrinsic motivation. Therefore, the concept of learner support, a term commonly used by distance education

professionals to identify a set of practices conducted by a group of people other than the course creator(s) with the aim to support diverse learners' needs (Thorpe, 2002), is especially relevant in e-learning. Within this context, mentors are a specific type of learner supporters, in which the concept of e-mentoring is defined as a technology-facilitated relationship between a senior professional and a less experienced individual in the field (Tinoco-Giraldo et al., 2020). In a multidisciplinary field like User Experience (UX), with several industry applications and a wide skillset (Branch et al., 2021; Vorvoreanu et al., 2017), e-mentoring has the potential to impact learners' professional development significantly, especially in courses with a focus on project-based learning (PBL). This type of online courses go beyond the theory by including practical applications and often real-world industry projects where mentors perform supervision duties through regular one-on-one virtual sessions. The aim of this study is, therefore, to analyze how e-mentoring as a supervision approach might impact UX students' first-time experience with a real industry project, considering both are conducted online, within the context of distance education and in a work-from-home (WFH) environment.

## **2. USER EXPERIENCE**

Despite the lack of consensus regarding a definition of User Experience (UX), the most cited explanation belongs to Don Norman, the author who coined the term itself: "User Experience encompasses all aspects of the end-user's interaction with the company, its services, and its products" (Norman and Nielsen, 2006, s.p.). It is important to note, however, that despite the implication that an experience could refer to anything, the practical aspects of the UX field are centered around digital interfaces, such as websites and apps. In fact, many times UX is interpreted as simply interaction design, without considering strategy, research and the actual design of the interface (Merholz and Skinner, 2016). The ambiguity of UX contributes largely to the lack of clarity regarding job roles and the function a UX professional should perform (Getto et al., 2013), which has clear implications in UX education.

## **3. SUPERVISION AND MENTORING**

The concept of supervision itself has been a subject of discussion for many years, since the functions of helping and evaluating are often conflicting (Sullivan and Glanz, 2013). It is, however, important to consider that supervisors are able to adapt their own style of supervision to the learners' needs (Harris, 2020), especially within the flexible context provided by the e-learning space.

### **3.1. Collaborative supervision**

Collaboration is considered an important component of supervision in most styles and approaches, from clinical supervision to dialogic scenarios with the focus on dialogue between peers and supervisors. Both coaching and mentoring are common concepts in collaborative approaches to supervision, often overlapping, though with different aims and functions (Tesfaw and Hofman, 2014).

#### *3.1.1. E-mentoring*

Mentoring is highly relevant in a diversity of fields, with different concepts and definitions, depending on the context. It might vary from an informal relationship to a highly structured and facilitated process (Murray, 2008). In education, mentoring can either refer to a specific mentorship program organized by a supervisor or to the actual functions of mentoring conducted by a supervisor, both in relation to other supervisors (peers) and their protégés/students (Glickman et al., 2017). For many, the role of a mentor is ambiguous, describing a variety of functions such as those of a guide, a trainer, an instructor or a leader.

Often, it's the culture of each organization that shapes the titles that are used to describe these functions (Murray, 2008). According to Irby et al. (2020), who considered different definitions of mentoring to establish conclusions, a mentor is involved in both instrumental functions (career, skills) and relational functions (psychosocial support and modeling), while a coach's scope would be narrower and focused on instrumental functions. There are even narrower scope roles with a focus on a specific function; like a tutor, who'd be focused only on skills development, or an advisor, on career support. Considering a mentor can cover such wide scope could also contribute to the ambiguity of the role. The concept of e-mentoring also lacks an operational definition, considering it is different from in-person mentoring (Tinoco-Giraldo et al., 2020) due to the competences that are required from each party, involving technology and specific pedagogical approaches within an online context (Thorpe, 2002).

### *3.1.2. Supervised distance education*

Supervised distance education is a way of learning and teaching that can be applied to different situations and contexts, from homeschooling to professional development in continuous adult education (Holmberg, 2005). In the field of teachers' education, supervision became known as a way to support a professional within a practical context. Bringing this practice to an online context means being able to make use of technology and techniques that make possible to support another individual while they apply their skills in a professional environment for the first time (Routier and Otis-Wiborn, 2013).

## **4. METHODOLOGY**

### **4.1. Participants**

The group selected for this study was composed of postgraduate students (n=10) located in the USA who have completed an online UX course (here identified with the letter S), and the mentors (n=2) who have been assigned to them to supervise their 4-week assigned client project at the end of their course (here identified with the letter M).

### **4.2. Study design**

A qualitative design was used for this study, with data collected from the publicly available online portfolios (n=10) of the students who have finished their industry project and from the supervision session logs (n=10) provided by the mentors. The main objective of the study was to gain an understanding of both the students' experiences and reflections as well as the mentors' perceptions based on their own notes, allowing for the triangulation of different perspectives. The focus was on the impact of e-mentoring on students' first-time experience in the industry.

### **4.3. Study setting and context**

In the e-learning space, there's a wide range of UX course options. This study focuses on an online self-paced mentor-led UX course based in USA that relies on the problem-based learning (PBL) model, integrating both fictional and real-world projects as part of the curriculum. By the end of the course, the students need to complete a 4-week industry project with a real client. During this time, the students have weekly Zoom sessions with their mentor who performs supervision duties by keeping track of their progress and supports them throughout the project through e-mentoring.

### **4.4. Data collection analysis**

For the data collected from the portfolios, all the text-based content from each industry project web page was saved as standard text documents. The supervision session logs were directly sent by the mentors as standard text files. Both were imported into ATLAS.ti, a QDA

(qualitative research analysis) software program used to perform qualitative data analysis. To analyze the qualitative data contained in the portfolios and session logs, thematic analysis (TA) was selected as a method for identifying, analyzing, and interpreting patterns of meaning known as ‘themes’ (Braun and Clarke, 2006). A data-driven (inductive) approach was used, with the aim of high quality and rigorous analysis of qualitative data, based on an organic approach to coding and theme development (Clarke and Braun, 2013, 2017). The first step was to become familiar with the data by reading it line-by-line multiple times. The portfolio content was the first set of data to be analyzed, by identifying initial codes that later generated potential themes for discussion and the foundation for further analysis of the second set of data (session logs) so that we could triangulate different perspectives. Reviewing these themes involved an iterative process of re-coding data and generating themes until no new themes emerged. In the end, the final themes were defined and named upon researchers’ consensus. All these steps were important in our analysis, since, due to the nature of the material, it was important to go beyond the semantic level and interpret the latent meaning in the data according to the literature review (Braun and Clarke, 2006).

## 5. RESULTS AND DISCUSSION

Our data analysis generated four themes, as summarized in Table 1: new skills gained during the industry project; applying existing skills to the industry project; challenges faced during the industry project; positive outcomes of the project.

Themes	Sub-themes	Codes
New skills gained during the industry project	Thinking skills	Critical thinking skills
		Creative thinking
		Problem solving
	Communication skills	Presenting/communicating
		Teamwork/collaboration
	Project management skills	Project/scope planning
		Task management
		Time management
Applying existing skills to the industry project	Technical UX/UI skills	UI design
		UX research
	Digital tools knowledge	UI design tools (e.g., Figma)
		Collaboration tools (e.g., Miro, Figjam by Figma)
Challenges faced during the industry project	Dealing with constraints	Time constraints
		UX budget/resources
		Recruiting research participants
		Lack of client’s UX knowledge
		Lack of product/industry knowledge
	Uncertain circumstances	Project confidentiality clauses
		Existing problem space/product
	Applying the theory to a real context	Unpredictable/unknown changes
		Non-linear process
Positive outcomes	Real impact	Adapting to business needs
		Impact on users
	Personal development	Impact on business
		Professional growth
	Networking & professional opportunities	Personal growth
		Client’s approval /testimonial (indirect)
		Client’s direct work opportunity

Table 1: Themes and sub-themes

### 5.1. New skills gained during the industry project

The data collected from the students' portfolios revealed that the skills students acquired during the industry project were mostly non-technical, such as project management, communication and thinking skills. Since students found themselves within a real industry context for the first time, they had to critically and creatively analyze the problems and challenges they faced, making them develop critical and creative thinking skills.

- “This being my first group project, it was made very clear early on that there are many different solutions to a problem, none of them ‘correct’.” (S4)
- “When I first started the project, I conducted user interviews and quickly realized that they were not actually needed to find a solution.” (S7)
- “This project was very different and unique. It was a great learning experience in terms of creativity and thinking out of the box.” (S1)

These challenges and new circumstances generated the need for solutions through problem-solving. Something that is interesting to analyze regarding problem solving is how the mentor's support and supervision sessions might have influenced students regarding the decisions they made. For example, one mentor reported on her notes that “despite not being able to conduct usability testing due to the timeline, the student found a great alternative solution by handing over the prototype to the client so that they continue from there” (M1); then on the same session's notes, the mentor reported to have made further suggestions during that session: “I suggested the student to include a testing guidelines document so that the stakeholders are able to test as accurately as possible” (M1). This makes us conclude that the mentor was able to influence the student to apply best practices while, at the same time, allowed her the freedom to come up with her own solution to the problem.

Other quotes further support this idea:

- “(S4) made the decision of splitting the team after we discussed some of the pros and cons of different options.” (M1)
- “We (S7+M2) discussed her concerns about having to interrupt some of the tasks she had already started.” (M2)

Since students didn't have curriculum-based instructions to guide them through their first real project, it isn't surprising to find that specific project management skills, such as being able to plan a project, managing time and tasks, were also some of the new skills highlighted in their portfolios.

- “We focused on getting to know our stakeholders and understanding further their expectations for any project goals, deliverables, and communications. With this information, we were able to devise a project plan and timeline going forward.” (S2)
- “We created a project plan with defined roles and responsibilities to set clear expectations and deliverables.” (S8)
- “We defined a scope proposal to clarify the extent of all the project deliverables for a short one-month time frame.” (S9)
- “Budgeting time and splitting tasks was a frequent challenge through this project.” (S10)

These skills were also highlighted on the mentors' session logs who “checked in to see how the student's team is managing to be on track with the new responsibilities they set” (M1), demonstrating, once again, the active role of the mentor on the students' development.



Additionally, communication skills have been developed due to the need for teamwork, collaboration and presenting design decisions to the stakeholders during the industry project:

- “As a team player, I made sure we all got an equal opportunity to showcase our skills and ideas which resulted in a successful and fulfilling project.” (S1)
- “I really enjoyed learning how to design and build products on a team as opposed to my own.” (S2)
- “This meant both working in such a way that we prepared and shared data that could be used and understood not only amongst stakeholders but also designers working on the project down the road.” (S3)
- “We ended up working and communicating so effectively with our client and each other that by the end of the month, we surpassed the initial goal.” (S4)
- “Communication is extremely important for any team effort, especially when we are all in different timezones. It is good practice to set ground rules initially (times to reach out, what method, how often,...” (S8)

Teamwork, in particular, was not only an important part of working in the UX field, but also within the WFH environment, as all team members were working remotely. Once again, regarding communication best practices and procedures, evidence of mentors’ influence was shown on the sessions’ notes: “(S2) asked me for real world examples on how to present and communicate with stakeholders” (M1). According to Irby et al. (2020), a mentor relationship has the power to shape habitus and subsequent professional practice, which is why mentor’s guidance has proven to be so important in mentees’ professional development.

## **5.2. Applying existing skills to the industry project**

An important part of the industry project was to give students the opportunity to apply the skills they’ve learned throughout the course in a real setting. Our study made clear that the skills students have acquired while reading, watching videos and working on fictional projects were mostly technical. Both user interface (UI) design and UX research (applied research) were skills students needed to apply during the industry project:

- “Our unmoderated usability tests were very successful and our client was very happy with the real users’ feedback.” (S6)
- “This level of prototype simulates the real-world functionality of the design and allows for a higher quality of usability testing.” (S8)
- “We ended up building a beautiful prototype that helps cleaners find new work and streamlines their daily tasks.” (S10)

Working in a team has also allowed students to use their strengths to their advantage, as they were able to work with team members who complemented their skillset. For example, some students have chosen to focus on the visual aspect of UI design, even if that meant spending more time working on the project, as noted by one of the mentors who reported that the student was “excited that the team was able to find additional time to fit in a polished design/high fidelity prototype to test with users” (M2). Other students have chosen to partner with their teammates for specific tasks that they didn’t feel comfortable with, also noted by this mentor: “he was able to use his strengths while his teammate took charge of the designs” (M2). On the other hand, some students have opted to dedicate fully to their area of interest, like this student who wanted to specialize in UX research: “As a user researcher, I created a triangulated research plan and was responsible for unmoderated interviews performed using Preely” (S5), being fully supported by her mentor who wrote that she has “shown a great passion and interest in UX research in this project, so we talked about how she could showcase these skills in her portfolio” (M1).

Besides being an essential artefact to pursue a UX career (Gerling et al., 2021), a portfolio is a method to promote someone's work and professional practices, and also a reflection tool in the learning process (Sullivan and Glanz, 2013). Another competence students were able to develop was their digital tools knowledge, both those specific to UI design (e.g., Figma) and those meant to make remote collaboration possible (e.g., Miro), essential to conduct a project with team members and stakeholders in different states:

- “During this process, I learned more about the collaborative tools that are incorporated into Figma.” (S1)
- “Following the kick-off call, we decided to conduct a mini-workshop session through Miro.” (S8)
- “Working on this project really helped me hone my Figma skills.” (S2)

Based on the supervision session logs, mentors seemed to be mostly focused on the outcomes of the tools and what these could achieve, rather than helping students with technical troubleshooting. For example, when referring to a Miro board, one of the mentors reported to have shown the student an “example of my lean UX workshop” that “helped him come up with his own.” (M1)

### **5.3. Challenges faced during the industry project**

Being involved in a real UX project for the first time made students aware of how some projects might work in the real world. Applying the theory to a real context was one of the many challenges students faced, mainly due to having to adapt to business needs and facing the reality of a non-linear design process.

- “The design process is not straight! I found working for a company that the linear design thinking strategies we learn about are much more fluid in practice. (S2)
- “Despite so much evidence which points to reasonable and doable solutions based on user needs and hard data, there can still be push back to a change from status quo procedures.”(S3)

Although mentors reported some discomfort and frustration from the students, such as being used to “follow a step-by-step approach by the book” and “feeling overwhelmed at first” (M1), some notes mention that students “learned from it” (M1). Students portfolios also showcase this learning process, with statements like this one: “it’s okay to deviate from the original project plan, as long as there’s open communication with the stakeholders” (S8). Something that was unique about the industry project, compared to previous fictional projects students have completed, was the fact that this project involved working with a company who already had an existing product:

- “I was joining in the middle of this project instead of building it from the ground up. It took some time to wrap my head around the information architecture their team had envisioned.” (S2)
- “Our team received a series of documents with designs created by a previous group of students.” (S4)

This posed as a challenge for some students, with one of them explaining that “it was difficult to understand the previous designers’ insights from this one screen” (S6), and another one mentioning they were “still getting comfortable with the idea of building off of other’s solution instead of starting from scratch” (S7). It seems, however, they were able to successfully overcome this challenge by, for example, looking up “their design documents” (S6) or by conducting a “thorough review of existing user interview notes” (S9).

Likewise, unpredictable changes and unknown issues have added to the uncertain circumstances of the project:

- “There are always iterations to be made, or new research to be done, and as a designer, our job is to embrace that.” (S2)
- “In order to understand the three options we had, I had to re-do my research and talk to our clients.” (S6)
- “Original estimated time on project plans doesn’t account for unknown issues or when something takes longer than expected, so flexibility is essential.” (S8)

Additionally, dealing with real-world project constraints meant that students were faced with limitations that they weren’t previously aware of. Time constraints, recruiting research participants without a UX budget, and lack of client’s UX knowledge were all challenges students had to face:

- “Working with a start-up was a fascinating experience. Resources are limited but goals are large.” (S2)
- “This requires much more discussion and persuasion (education) even at the team level and clearly at the industry level as well.” (S3)
- “Having only a month to complete the client requests was intimidating for the team!” (S4)
- “We received an equal amount of budget for all three usability tests, so we decided to distribute our budget.” (S6)
- “It was important for my partner and I to clearly communicate our design decisions since the CEO does not have a design background.” (S8)
- “I expected the timeframe would be a challenge, but great team communication and the scope proposal allowed everyone to be informed and aligned as a team.” (S9)
- “Due to budget constraints, we were unable to conduct the interviews we planned.” (S10)

The mentors’ notes on the session logs revealed that they supported students’ work and efforts such as “being able to advocate for the importance of research and obtain a dedicated UX budget from the client” (M1) or by offering alternatives on how to “showcase the target audience and persona in the portfolio” despite “constraints of the research due to UX budget” (M2). It was not only the lack of UX knowledge on the client’s side that posed a challenge. Students were also unfamiliar with the product, and sometimes, even the industry:

- “I underestimated the time I needed to take to truly immerse myself into the project by learning the various finance terminology (cash-flow deals, syndication, IRR, and what feels like a million other terms...).” (S8)
- “At the beginning of this project, I had little knowledge about the public school education system failures and the problems that students or teachers encounter in urban communities.” (S9)

The fact that there were confidentiality clauses also posed a challenge for students who report that “because of the NDA, it is hard to write about the process” (S3) and have to come up with solutions such as ensuring “the content is blurred out due to confidential information” (S1) to include the project in their portfolio.

#### **5.4. Positive outcomes of the industry project**

Participating in the industry project had many positive outcomes for the students, starting with the real impact that students were able to make on both the users and on the business, such as feeling “like I was helping people who I had a connection with, the craftspeople” (S4) or improving accessibility for “many people on the autism spectrum and neurodiverse who

experience food intolerances or allergies” (S5), as well as being able to “gain lots of valuable insights for our client” (S2). Students were able to grow both personally and professionally throughout the industry project, from “learning the importance of recruiting real users” (S6) to realizing that “being a part of this project was inspiring and meaningful to me because about a year ago I would have not considered myself as a creative writer or an advocate for creative writing” (S9). This project also meant the official beginning of some students’ UX career, either because “after the internship, I was asked to come on as a freelancer so I will continue to work on this project” (S2) or by opening up opportunities based on clients’ recommendations and positive feedback, such as “describing our work as ‘mind-blowing’ and ‘exciting’ for what is to come next.” (S3)

## 6. CONCLUSION

In a multidisciplinary field like UX, the flexibility provided by the e-learning space can be of great advantage for postgraduate students who are seeking to complement their education or switch careers. Learner support has been known in the online course space as an important component of self-paced courses, aimed at fulfilling diverse learners’ needs, often taking the form of e-tutoring or e-mentoring. When e-mentoring occurs during a students’ first time experience with a real industry project or in a real-world professional setting, it opens up new opportunities for the students’ learning experience. This study suggests that e-mentoring, as a form of supervision, is beneficial for UX students’ professional and personal development, by allowing them to apply theory to practice, create real impact with their work, gain skills that can’t be taught via course content, and practice the skills they’ve already learned. According to the results of this study, we believe that the impact provided by a remote industry project or virtual internship is only possible because of the mentor support, which allows students to feel comfortable and confident to explore within a safe environment and learn from their own mistakes. E-mentoring support ranged from active listening to open suggestions that didn’t take away the learners’ freedom and autonomy, helping students to develop critical thinking and problem solving skills. Despite struggling with applying certain theoretical concepts and dealing with project constraints, students were able to overcome these challenges and embrace the differences between the theory and the actual practice of UX. Further research would be required to explore the impact of e-mentoring with other supervisory styles, more and less directive, and how different pedagogical approaches might contribute to the overall impact of e-mentoring as a form of supervision.

## LITERATURE:

1. Branch, J., Parker, C. J. and Evans, M. (2021) “Do user experience (UX) design courses meet industry’s needs? Analysing UX degrees and job adverts,” *The design journal*, 24(4), pp. 631–652. doi: 10.1080/14606925.2021.1930935.
2. Braun, V. and Clarke, V. (2006) “Using thematic analysis in psychology,” *Qualitative research in psychology*, 3(2), pp. 77–101. doi: 10.1191/1478088706qp063oa.
3. Clarke, V. and Braun, V. (2013) *Successful qualitative research: A practical guide for beginners*. London, England: SAGE Publications.
4. Clarke, V. and Braun, V. (2017) “Thematic analysis,” *The journal of positive psychology*, 12(3), pp. 297–298. doi: 10.1080/17439760.2016.1262613.
5. Gerling, G. J. et al. (2021) “Crafting an effective portfolio in user experience design,” in *2021 Systems and Information Engineering Design Symposium (SIEDS)*. IEEE.
6. Getto, G. et al. (2013) “Teaching UX: Designing programs to train the next generation of UX experts,” in *Proceedings of the 31st ACM international conference on Design of communication - SIGDOC '13*. New York, USA: ACM Press.

7. Glickman, C. D., Gordon, S. P. and Ross-Gordon, J. M. (2017) *SuperVision and instructional leadership: A developmental approach*. 10th ed. Upper Saddle River, NJ: Pearson.
8. Harris, T. (2020) *Successful supervision and leadership: Ensuring high-performance outcomes using the PASETM model*. New York, USA: Productivity Press.
9. Holmberg, B. (2005) *The evolution, principles and practices of distance education*. 1st ed. BIS-Vlg.
10. Irby, B. J., Boswell, J., Searby, L., Kochan, F. and Garza, R. (2020) *The Wiley international handbook of mentoring: Paradigms, practices, programs, and possibilities*. Nashville, TN: John Wiley & Sons.
11. Merholz, P. and Skinner, K. (2016) *Org Design for Design Orgs*. Sebastopol, CA: O'Reilly Media.
12. Murray, S., Ma, X. and Mazur, J. (2009) "Effects of peer coaching on teachers' collaborative interactions and students' mathematics achievement," *The journal of educational research*, 102(3), pp. 203–212. doi: 10.3200/joer.102.3.203-212.
13. Norman, D. and Nielsen, J. (2006) *The Definition of User Experience (UX)*. Nielsen-Norman Group Available at: <https://www.nngroup.com/articles/definition-user-experience> (Accessed: May 2, 2022).
14. Routier, W. and Otis-Wilborn, A. (2013) "Supervision in Distance Education: Technology for Reflecting, Evaluating and Learning in Teacher Education," in *Proceedings of EdMedia 2013--World Conference on Educational Media and Technology*. Association for the Advancement of Computing in Education (AACE).
15. Sullivan, S. S. and Glanz, J. G. (2013) *Supervision that improves teaching and learning: Strategies and techniques*. 4th ed. Thousand Oaks, CA: Corwin Press.
16. Tesfaw, T. A. and Hofman, R. H. (2014) "Relationship between instructional supervision and professional development." *The International Education Journal: Comparative Perspectives*, 13(1), 82-99.
17. Thorpe, M. (2002) "Rethinking Learner Support: The challenge of collaborative online learning," *Open Learning The Journal of Open Distance and e-Learning*, 17(2), pp. 105–119. doi: 10.1080/02680510220146887a.
18. Tinoco-Giraldo, H., Torrecilla Sánchez, E. M. and García-Peñalvo, F. J. (2020) "E-mentoring in higher education: A structured literature review and implications for future research," *Sustainability*, 12(11), p. 4344. doi: 10.3390/su12114344.
19. Vorvoreanu, M. et al. (2017) "Advancing UX education: A model for integrated studio pedagogy," in *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems*. New York, NY, USA: ACM

## THE IMPACT OF GLOBALIZATION ON THE PARTICIPATION OF CITIZENS IN LOCAL PUBLIC LIFE: CASE OF CROATIA

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### **ABSTRACT**

*Globalization is a challenge for the traditional understanding of the nation-state as foundation of political decision-making, and as institutions responsible for solving problems in modern societies. In addition, globalization drastically limits the possibilities of the classical national welfare state in managing its own society and economy. In this paper, we will focus on information-communication-technological mechanisms that, as a result of the globalization process, have introduced new modalities of public affairs management, and involving citizens as actors in the policy processes. Especially at local level the ICTs supported tools are expected to enable a greater level of transparency and openness, promote accountability and effective provision of public services. Two instruments of participatory local government in Croatia are analysed by using the method of legal and content analysis, web analytics of websites and portals, and interviews. E-consultations represent a legal obligation for local governments when issuing acts and strategic documents reflecting on the interests of the public, while participatory budgeting represents example of good practice, not being legally prescribed as mandatory. In the first part of the paper, the impact of globalization on the contemporary public administration will be explained, with focus on government relation to citizens. In the following chapter legal standards promoting ICTs for participatory local government will be analysed. The third chapter will include empirical insights on the local participatory government in Croatia, based on two case studies: e-consultations and e-participatory budgeting. Finally, concluding remarks and recommendations will be contained in the last chapter.*

**Keywords:** *e-government, local level, openness, participation, transparency*

### **1. INTRODUCTION**

Since the 1990s, all segments of society have been profoundly transformed: political systems, governance, public administration, economic sector, relationship between the state and civil society, etc. Such changes have been qualified as a process of globalization. The International Monetary Fund defines globalization “as the growing economic interdependence of countries worldwide through increasing volume and variety of cross-border transactions in goods and services, free international capital flows, and more rapid and widespread diffusion of technology”. Simple put, globalization stands for the global spread of goods, services, technology, ideas and processes. It is a very extensive phenomenon which, among other things, poses a challenge to the traditional understanding of nation-states as the foundation of political, ie collective decision-making, and as institutions responsible for solving problems in modern societies.<sup>1</sup> The changing perceptions of the role of the State, managerial orientation in governance, market-driven approach to development, and increasing advocacy of the complementary roles of government, market and civil society affected the nature and processes of public administration. Srivastava points out that the impact of globalization on public administration can be observed in several areas: public service reforms, reinventing government, entrepreneurial government, changing role of bureaucracy, good governance, e-

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<sup>1</sup> Fürst, V., Prange, H., Wolf, D. (2002), *Globalization, Europeanization and All That: Sorting Out the Issues. The Examples of European States*, Paper at the ECSA-Canada Fifth Biennial Conference, Toronto.

governance and empowering citizens.<sup>2</sup> For the purpose of this paper, we will focus on good governance which also includes e-governance and citizen participation. The concept of good governance was outlined in 1989 in the World Bank Report on Sub-Saharan Africa. It is defined as “a public service that is efficient, a justice system that is reliable and an administration that is accountable to the public”. The concept represents a set of standards for public sector management, which imply the highest level of professionalism in public administration, i.e. the implementation of the principles of participation, accessibility, accountability, transparency, effectiveness of public administration with the imperative of implementing the rule of law. In order to achieve most of the proclaimed principles the implementation of ICT’s is necessary. In addition to the state level, the concept of good governance also applies to local government.<sup>3</sup> In the past 25 years, ICT has increasingly been used by local governments to promote participatory practices and to enhance the involvement of citizens in local decision-making and in service delivery (e-governance). The global omnipresence of ICT combined with local innovation and the collaboration of the public, private and civil sectors has made it possible for many to engage in local decision-making and have a say in the local political process.<sup>4</sup> Over the years numerous tools for citizen participation have been developed and implemented in public administration (e-consultations, open access to information, e-participatory budgeting, e-surveys, e-opinion polls etc.). In Croatia, in addition to traditional forms of local participation and representation (local elections, referenda, assemblies, petitions), new forms of participatory governance emerged in the last decade. In the central chapter we will analyze two such tools, e-consultation and e-participatory budgeting. This paper aims to present and analyse their regulation and application at the local level in Croatia.

## 2. LEGAL STANDARDS PROMOTING ICT’S FOR PARTICIPATORY LOCAL GOVERNMENT

Under the auspices of pan-European organizations, a rich system of legal rules and standards has been developed, aimed at strengthening the right to information and the right to participate in decision-making and public affairs, especially of local authorities. Also, the OECD supports and advocates an open government policy based on the principles of transparency, participation, digital technologies, open data, and government-citizen partnerships. Art. 10, par. 3 of the Treaty on European Union incorporates the principle of participation in democratic life into the foundations of the Union's functioning, while the EU Charter of Fundamental Rights includes the right of access to information into the Union’s catalog of rights (Art. 42), along with the right to launch petitions (Art. 43). EU information society policy has evolved since the early 1990s, from the first phase focused on telecom liberalization and infrastructure development, through the second phase since the late 1990s, with a focus on social aspects – from digital literacy, e-inclusion, and e-public services to the most recent phase with a comprehensive approach based on key policy documents. These include, for example, the Lisbon Agenda 2000, the Digital Europe 2010 initiative (2005), the Digital Agenda for Europe (2010), and the Digital Single Market Strategy 2015. The current e-government development policy is part of the 2021 initiative “2030 Digital Compass: the European way for the Digital Decade”, which includes

2 Srivastava, M. (2009). *Globalisation and Public Administration: A study of the term “globalisation” - its nature, meaning, characteristics and impact on public administration*. Retrieved 8.3.2022. from [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1508013](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1508013).

3 In a research we conducted in 2014, we identified fifteen principles of good local governance: subsidiarity, effectiveness, inclusiveness, mutual aid, legal certainty, transparency, accountability, competition, equal access, quality of service, antidiscrimination, participation, sustainability, partnership and exchange of best practice. These principles are elaborated in about fifty standards. (Dobrić, D. (2014). *Europeanization of Local Self-government*. Doctoral thesis, Faculty of Law, Zagreb).

4 Musa, A., Koprić, I., Dobrić Jambrović, D., Đurman, P. (2022). *ICT Supported Participatory Governance at the Local Level in Croatia*. In M. Doucy, M. Dreyfus, N. Noupadya, S. Guerard, B. Kingwesi, Brice, A. Tudor, Antoniu (eds.), *Democratic and Electronic Changes in Local Public Action In Europe: REvolution or E-volution?* (p. 315). Paris: Institut Francophone pour la Justice et la Démocratie - Louis Joinet.

four core points: (1) digitally skilled population and highly skilled digital professionals, (2) sustainable digital infrastructure regarding connectivity, microelectronics and the ability to process vast data, (3) digital transformation of businesses, and (4) digitalisation of public services (COM(2021)118final).<sup>5</sup> In addition to the Member States, local units are expected to be more transparent and enable the involvement of citizens, as a democratic aspect of e-government, but also to provide services online. The EU itself has promoted several e-participation tools, such as the Transparency Register (2011), the European Citizens' Initiative (2012), the e-Petitions platform (2014), EU e-public consultations (2015), the EU Open Data Portal (2015), and others. On the other side, the Council of Europe (hereinafter: the CoE) documents that provide forms of direct and representative local democracy and participatory governance are the European Charter of Local Self-Government (hereinafter: the Charter) and the Additional Protocol to the European Charter of Local Self-Government on the right to participate in the affairs of a local authority (CETs no. 122 of 1985 and no. 207 of 2009). Measures that have the character of a regulation prescribe obligations for local units to enable the realization of the right to participate, while policy measures, incentive measures aim to strengthen the capacity of units for participatory practices and the use of ICT. The first policy measure may include, for example, the creation of support instruments at higher levels, such as units or organizations for providing professional assistance, education, and professional development, manual development, or project funding to encourage pilot projects or ensure the implementation of individual instruments. The second policy measure presupposes the strengthening of the right to participate with the help of ICT, which, in the case of the right to participate as defined by the Protocol, would include, for example, the possibility of exercising certain instruments via the Internet (e-consultation, e-referendum, e-petitions, e-complaints, e-proposals, e-access to information, and informing the public via websites). However, all regulatory measures also require certain policies or operational instruments for their implementation (e.g., organized voter lists, websites of local units, efficiency in handling petitions and proposals, etc.). The most recent document by which the CoE regulates participation at the local level is the Recommendation on the Participation of Citizens in Local Public Life from 2018 (CM/Rec(2018)4). According to the document, national legislation and central government decisions in the participation domain should enable local authorities to implement a wide range of participatory instruments effectively. In addition, local units are encouraged to develop their own participation policies and practical forms of implementation. The first step that should be taken in this process is an in-depth assessment of the state of local participation based on which they would determine appropriate benchmarks and introduce a system for monitoring progress to identifying positive or negative trends regarding citizen participation and measure the impact of adopted mechanisms. On the other hand, special recommendations, elaborated in the Appendix to the Recommendation, refer to the participation in local elections, i.e., representative democracy, citizen participation in local government, and special groups of citizens, whose participation in local participation is made difficult – women, children and youth, people with disabilities, the elderly, foreigners, as well as the inclusion of civic education in school curricula in order to promote awareness of an individual's responsibilities in a democratic society. The implementation of these measures would contribute to increasing the level of transparency, openness, and publicity of local political and administrative bodies.

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<sup>5</sup> In January 2022, the Declaration on European Digital Rights and Principles was adopted. It's main focus are digital policies that empower people and businesses to seize a human centred, sustainable and more prosperous digital future (COM(2022) 28 final).



### 3. PARTICIPATORY LOCAL GOVERNMENT IN CROATIA

In 2018, Croatia, as a member of the CoE, marked 20 years from the ratification and entry into force of the European Charter of Local Self-Government, i.e., 10 years from the entry into force of the full implementation of the Charter. Croatia ratified the European Charter on Local Self-Government (partially in 1997, fully in 2007) but the Protocol on the Right to Participate in the Affairs of a Local Authority is not yet part of the Croatian legal order, although a number of instruments are part of Croatian legislation. As any other party of the CoE, Croatia follows recommendations and other instruments of the Council of Ministers and CLRAE, as well as initiatives and practices. In 2013, Croatia became a member of the European Union although the EU's impact in Croatia, started in 2001 when EU membership became a strategic national interest. Over the course of almost a decade and a half, Croatian public administration has undergone numerous reforms aimed at improving public administration's capacity of adhering to EU membership. The issues related to e-participation were also addressed by the accession of Chapter 23 Judiciary and Fundamental rights in terms of the necessity to improve the anti-corruption policy and rights of the citizens (e.g. right of access to information, right to participate in local elections, etc.). In this context, the right of access to information was granted the status of a constitutional right in 2010 and was further regulated in the Law on the Right of Access to Information (hereinafter: LRAI) in 2013. Besides transparency in terms of publication and accessibility of information, this legislative instrument has also reflected on e-participation in terms of public administration's openness to the input of citizens, it prescribes public authorities' firm legal obligation to conduct e-public consultations.<sup>6</sup> Moreover, there has been a strong impetus from international forums towards e-government development. The example of global online participatory governance influence includes the Open Government Partnership Initiative (OGP) to which Croatia accessed in 2011 by adopting the first action plan aimed at the introduction of numerous improvements in the relationship between administration and citizens, most of them facilitated by ICT.<sup>7</sup>

#### 3.1. E-consultations

Public consultations represent one of the most common instruments for public participation in the process of formulating public policies, including preparation draft laws, secondary legislation and other acts and policy documents. The techniques of presentation and providing feedback can vary from offline to online modes, or a combination of both. In general, the online mode includes the publication of the draft and the possibility for the public to submit comments and proposals online, with the results of the assessment of the comments by public authority and the new proposal also published online. Today, e-consultations have become a standard in implementation, and are most often conducted via specialised portals. E-consultations are supposed to have several advantages over their offline modes (e.g. forms of public hearings). They are related to possibly larger numbers of participants, greater interactivity, reducing different physical barriers etc., although they can also deepen the problem of digital divide.<sup>8</sup>

##### 3.1.1. E-consultations in Croatian local government

Public consultations (offline and online) were introduced in Croatia in 2009 by the Government Code of Practice on Consultation with the Interested Public in the Process of Adopting Laws, Other Regulations and Documents. E-consultations became obligatory to all public authorities including the local government and their organisations (companies, establishments) in 2013 with the adoption of the LRAI.

<sup>6</sup> Musa, A., Koprić, I., Dobrić Jambrović, D., Đurman, P., *op. cit.*

<sup>7</sup> *Open Government Partnership*. Retrieved 10.4.2022. from <https://www.opengovpartnership.org/>.

<sup>8</sup> Shulman, S. W. (2005). *eRulemaking: Issues in Current Research and Practice*. eRulemaking Research Group. p. 628.

The process was facilitated for the central authorities with the launch of an e-consultations platform<sup>9</sup> in 2015, providing local governments with the possibility to join the platform or to use the same non-proprietary software to establish their own portals. The e-consultation procedure (Art. 11 of the LRAI) consists of a notice published by a public authority containing a proposal with the explanation of the goals and main accents of the act, and an invitation for the public to submit their proposals and comments within a provisional timeframe of 30 days (the public body must justify its reasons for applying a shorter period). Upon the finalisation of the process, the public authority must prepare and publish a report and respond to the comments with an explanation as to why a certain proposal has not been accepted. In addition, public authorities are free to initiate other forms of consultations such as focus groups, e-mail collection of proposals and the like, but must report on them in order for the process to remain transparent. While state administration organizations have started to conduct e-consultations more consistently from 2013 onwards, IC Annual Reports and monitoring, as well as scientific research efforts,<sup>10</sup> suggest that local governments have continuously been lagging behind the central government. The failure to consult citizens in the first years could have been attributed to the low capacity of small units, low awareness and skills development, but also to insufficient pressure on the behalf of citizens, local civil society organisations and local businesses who were not aware of the possibilities of e-participation or suitably skilled to participate (especially the units with an older and rural population). Nevertheless, the number as well as the quality of e-consultations conducted at the local and regional levels has continuously grown each year, mostly as a result of the monitoring (analysis, reporting) and promotion of the consultations practice through training, education campaigns and workshops by the Government Office and the IC. For instance, according to the IC Annual Report for 2021,<sup>11</sup> the number of conducted e-consultations at the local level has risen 5,9 times - from 604 in 2015 to 3.587 in 2021 (the data is based on self-reporting). It's important to mention that the largest number of consultations was conducted in 2019, a total of 3986. The following year, due to the Covid-19 pandemic, the number of e-consultations decreased to 3163. Still, local governments often fail to conduct e-consultations, while some of them (mostly smaller local units) completely neglect this legal requirement by failing to conduct consultations when adopting the general acts (240 or 43,24% of local units in 2016, but only 54 or 9,45% of local units in 2018, according to the IC Annual Reports for respective years).<sup>12</sup> In 2020, the IC monitored the implementation of e-consultations in 142 local units and concluded that the level of implementation is extremely low. Only 84 out of 142 local units (59.15%) conducted public consultations to some extent. The Primorje-Gorski Kotar County stands out as an example of good practice due to the fact that it has adopted the Regulation on establishing general principles for public consultation in the adoption of acts by the Primorje-Gorski Kotar County. According to the Regulation, the consultation may not last less than 30 days, except in case of extraordinary circumstances or legality, such as the budget cycle and the report on conducted public consultation must be published within 15 days from the conclusion of the consultation. Also, a particularly successful example is the City of Rijeka, which on its specialized portal for the implementation of public consultations publishes the differences between the proposed solutions compared to existing ones, and thus provides citizens with complete information.<sup>13</sup>

9 *e-Savjetovanja*. Retrieved 10.4.2022. from <https://esavjetovanja.gov.hr/>.

10 Đurman, P. (2016) Europeizacija javne uprave i načelo otvorenosti. In P. Đurman *Godišnjak Akademije pravnih znanosti Hrvatske*, Vol. 7, No. 1 (p. 342). Zagreb: Akademija pravnih znanosti Hrvatske.

11 Information Commissioner. (2022). *Annual Report on the Implementation of the Law on the Right of Access to Information for 2021*. Retrieved 11.4.2022. from (<https://pristupinfo.hr/>). The Government Office also publishes their annual report on the eConsultations portal.

12 Musa, A., Koprić, I., Dobrić Jambrović, D., Đurman, P., *op. cit.*

13 *Savjetovanja s javnošću*. Retrieved 10.4.2022. from <https://ekonultacije.rijeka.hr/>.

The main problem with the implementation of public consultations at local level is the establishment of obligation to conduct consultations for legal acts and non-compliance with the legal duration of consultations. Also, an information related to consultations is published on various portals and various sections. That is not in line with the principle of easy searchable data and represents a significant problem for establishing dialogue with citizens. The analytical monitoring showed that citizens are rarely involved in commenting on the acts of the consultation.<sup>14</sup> In addition, citizens' comments are often not structured and linked to individual articles. Sometimes they do not even relate to the topic that the act deals with, or they are generalized, so it is difficult for the public body to respond to them in a quality manner. Finally, the deadlines for conducting public consultations, as formulated by the LRAI, remain a fundamentally contentious issue in the application of this important and useful legal institute. It is evident that, especially for bylaws, the consultation lasts less than 30 days, which according to LRAI is an exception to the general rule. Therefore, there is a need for more complete formulation of deadlines and possible exceptions. In this way, the shortcomings in planning and delays in the execution of normative activities would not be eliminated in a way that consultations are conducted only to satisfy the form.

### 3.2. Participatory budgeting

Citizen participation in budgeting (hereinafter: PB) is a form of direct democracy that offers citizens the opportunity to learn about the distribution of public funds and their impact on community life, the deliberative process, and political decision-making with the aim of their involvement in governance. It could be said that PB is an educational instrument intended for strengthening the role of citizens as well as an instrument for meeting the requirements for good governance. Increased transparency and accountability to which PB contributes can help reduce government inefficiency and combat clientelism, patronage, and corruption. Participation in budgeting also strengthens inclusive governance by enabling marginalized and excluded groups to influence public decisions critical to the pursuit of their interests. Additional positive effects of PB are greater responsiveness of political bodies when it comes to citizens' needs and preferences and greater responsibility for the allocation of resources and service delivery.<sup>15</sup> PB is used predominantly within a small geopolitical area, focusing mainly on local municipalities and medium-sized/large cities. The fact is that working in small units improves cooperation and equality, which in turn reflects on the efficiency and greater public involvement in the local community. Therefore, one of the challenges is to apply this method within a larger urban environment. Local governments implement PB programs to achieve different goals. These include building a base of political support, achieving a fairer distribution of scarce resources, encouragement of public learning, and promoting more transparent governance.<sup>16</sup>

#### 3.2.1. E-participatory budgeting in Croatian local government

There is no specific legal framework on PB in Croatia. The differential (formalistic) interpretation of the character of the budget has led to different opinions, whether under the LRAI the budget should be considered as a legislative document, or a general act or a planning document falling under the obligation of public consultations. The legislation regulating budgetary processes does not require consultations for the adoption of the budget (only the publication of the final budget), but it surely does not prohibit local governments from discussing the proposal of the budget with citizens. Given such an unclear image on the obligations and possibilities of local governments to engage citizens into PB, the practice varies;

<sup>14</sup> Information Commissioner, *op. cit.*

<sup>15</sup> Shah, A. (2007). Overview. In A. Shah (ed.). *Participatory Budgeting* (p. 1). Washington: The World Bank.

<sup>16</sup> Wampler, B. (2007). A Guide to Participatory Budgeting. In A. Shah (ed.). *Participatory Budgeting* (p. 21). Washington: The World Bank.

with some local governments conducting e-consultations on their budget proposals, and a dozen others mostly applying more refined PB models.<sup>17</sup> One of the examples of good PB practice in Croatia can be found in the City of Pazin. It was first introduced in 2014 with the aim of more active involvement of citizens and the public in the process of adopting the budget for 2015 as a project implemented by Pazin together with the initiative “Citizens supervising voting in an organized manner” (GONG), the Society Our Children, the Institute of Public Finance, and the Association of Cities. Through public hearings at the level of twelve local committees of Pazin and online public hearings, previously informed citizens were able to propose small and large utility actions and sectoral priorities for funding. Minutes from public hearings, proposals, and voted decisions were sent to the City Council, the mayor, and city departments so that citizens’ proposals were considered when drafting and proposing the budget. In the city budget for 2015, the Council included all voted small communal actions, as well as a part of the proposals of large communal actions and proposals arising from sectoral discussions.<sup>18</sup> In the City of Pazin, they emphasize the importance of the developed open-source online application with the presentation of participatory and transparent budgeting elements. In addition to contributing to a sense of shared ownership, the participatory budgeting process also strengthens democracy and raises transparency and trust among citizens. The main goal of introducing participatory budgeting is to increase the quality of public policies and the level of good governance in local self-government units through civil dialogue mechanisms for sustainable participatory democracy.<sup>19</sup> Unlike Pazin, the local authorities in the City of Rijeka implement as many as three models: small communal actions, a local partnership program, and the educational-budget game “Budget(me)”. The first model is suitable for activities carried out with the aim of raising citizens’ quality of life, i.e., improving the communal standard and harmonizing the equipment standards of local committees. Every year, the City Council adopts the Plan for the Allocation of Funds for Communal Priorities in the Area of Local Committees and publishes a public call for proposing priorities.<sup>20</sup> Local councils, citizens, authorized representatives of co-owners of residential and commercial buildings, and citizens associations can submit proposals, either in person, by mail, e-mail, or through online forms. All processed applications are submitted to local councils for adoption. In addition to deciding on a part of the budget, citizens also participate in monitoring the proposals, implementation, and reports on implemented utility priorities on individual local committees’ websites. The second model enables direct participation of citizens, associations, and local committees in cooperation with the City of Rijeka in the faster and more economical resolving of a part of residents’ needs. This model seeks to enable faster implementation of utility projects and achieve greater social and economic effects by combining public and private sector funds and a strong contribution of the local community. In addition to financial support for selected projects, the City also offers technical support for project preparation, writing, and development, professional assistance in determining the construction and horticultural landscaping solutions, accounting supervision of works and other expert advice to the project manager. A total of 35 projects were implemented from 2016 to 2020.<sup>21</sup> The third model is the online educational game “Budget(me). It is an interactive tool for direct communication between citizens and the mayor.

17 Musa, A., Koprić, I., Dobrić Jambrović, D., Đurman, P., *op. cit.*

18 *Pazin-Pazi(n), budget!* Retrieved 4.4.2022. from <https://www.udruga-gradova.hr/inputs/pazin-pazin-proracun/>.

19 A survey was published on the City’s online forum, which examines citizens’ satisfaction with the part of the budget they decide on. Unfortunately, 68% of citizens said that this part of the budget should still be higher (161 votes out of 238). Only 16% of citizens are satisfied (38 votes), while the same percentage believes that the amount of the budget that citizens decide on should be reduced. (*iPazin*. Retrieved 4.4.2022. from <https://www.ipazin.net/>)

20 Decision on the manner of financing the activities of local committees in the City (Official Gazette of Primorje Gorski-kotar County 41/08, 44/09, 46/12, 14/13 and Official Gazette of the City of Rijeka 13/15). Retrieved 4.4.2022. from <http://www.sn.pgz.hr/default.asp?Link=arhiva&godina=2013>, <https://sn.rijeka.hr/arhiva-2015/>.

21 *Realized projects*. Retrieved 4.4.2022. from <https://www.rijeka.hr teme-za-gradane/aktivno-gradanstvo/participativno-budzetiranje-ukljucivanje-gradana-odlucivanje-proracunu/rijecki-program-lokalnog-partnerstva/realizirani-projekti/>.

In addition to becoming familiarized with the current budget items, the citizens can choose projects they would like to implement, which are not in the existing budget. The game is based on the City of Rijeka's actual budget figures and is the only one of its kind in Croatia.<sup>22</sup> Finally, it should be emphasized that there are other similar examples of PB implementation in Croatia. Shortly after the announcement of the City of Pazin's project in the media, the City of Pula launched a similar project of consulting citizens in local committees through an e-consultation portal and e-mail.<sup>23</sup> The city of Buzet has updated their official website with a new application "Create a budget!", which enables citizens to get acquainted with the basics of creating a city budget and, through an interactive portal, propose basic guidelines for its creation.<sup>24</sup> In 2017, the City of Sisak developed the application "MyBudget" through which citizens can propose the distribution of budget items and funds. The turnout was already high in the first year, 346 citizens sent proposals that the mayor incorporated into the budget through amendments. The following year, as many as 569 proposals were sent.<sup>25</sup> In 2018, for the first time, the City of Trogir began with the implementation of PB, which held eight public discussions in local committees. It is important to note that 293 citizens' proposals were received in the first year of its implementation. Until 2019, the citizens participated in the formation of the City of Dubrovnik's budget exclusively in an advisory manner by proposing projects for which they sought funding. After that, the City raised the standard of participatory democracy to the level of co-decision and citizens were given the opportunity to vote on project proposals.<sup>26</sup> In most other municipalities and cities, citizen participation is still at the level of information (through official websites or newspapers) and consultations (through local committees or public forums).

#### 4. CONCLUSION

As a complex phenomenon, globalization has economic, political, cultural and technological aspects that can be closely intertwined. Its multidimensional influence reflects, among other, organization of public administration. In the last ten years, structural and functional adjustments of public administration have been made in Croatia as well, driven by globalization and Europeanization. Both processes encourage national and local structures to implement the concept of good governance, and in particular to strengthen their transparency, openness, accountability and responsiveness. The outlined principles represent the foundations of participatory governance. Therefore, it is necessary to ensure the visibility of government work, the availability of state information to the public at all levels of government, and also a two-way process of interaction between government and the public through various instruments of public participation. In this way, government's responsiveness, quality of decision-making and legitimacy of government bodies could be increased. The implementation of participatory government principles and goals has been greatly supported by the development of digital technology. The use of ICT's in public administration has multiple advantages. First, it contributes to the visibility of the work of public bodies and the interaction between government and the public.<sup>27</sup> Citizens have access to information on the organization and work of government, they have the ability to monitor and evaluate the actions of public bodies, which ultimately leads to strengthening the legitimacy of government. Second, the implementation of e-government increases the efficiency and quality of public administration. This includes better governance within administrative organizations and better provision of public services to citizens, NGOs, the business sector, etc.

<sup>22</sup> *Budget(me)!*, Retrieved 4.4.2022. from <https://www.vojko-obersnel.com/hr/proracunaj-me/2019>.

<sup>23</sup> *Budget of the City of Pula for you*. Retrieved 5.4.2022. from <http://www.proracun.pula.hr/>.

<sup>24</sup> *City of Buzet*. Retrieved 5.4.2022. from <http://www.ebuzet.com/>.

<sup>25</sup> *My budget*. Retrieved 5.4.2022. from [https://proracun.sisak.hr/moj\\_proracun.html](https://proracun.sisak.hr/moj_proracun.html).

<sup>26</sup> *New Apsolon study of digital readiness of cities*. Retrieved 5.4.2022. from <https://gradonacelnik.hr/smart-city/rijeka-i-pula-i-dalje-sampioni-digitalizacije-najveci-napredak-postigli-koprivnica-bjelovar-i-varazdin/>.

<sup>27</sup> Musa, A., Koprić, I., Dobrić Jambrović, D., Đurman, P., *op. cit.*

Third, digitalisation provides new institutional channels to involve citizens in decision-making and service delivery processes (for example, e-voting and e-referenda, e-petitions, e-forums, e-public consultations, public information websites and portals, participatory budgeting, open data portals, co-production practices etc.). The analyzed instruments applied in Croatian local government certainly contribute to the development of participatory culture. Over the years, there has been a trend of increased number of e-consultations, although about 40% of local units do not publish an annual consultation plan. Of additional concern is the fact that in cases of consultations, no local unit applies the legal provision on the duration of the consultation process (30 days). Shortening the deadline prescribed as an exception has become the rule. The IC emphasizes the need for proper implementation of public consultation, which achieves its purpose if there is enough time to involve stakeholders, especially when it comes to a more comprehensive document that applies to a large number of addressees. The explanation for shortening the duration of e-consultation were published by 65% of local units. Explanations are particularly important because they represent one of the mechanisms for monitoring the compliance of the government with the provisions of the LRAI. The implementation of the consultation indicated that the local unit still do not identify precisely the acts for which public consultation is required and that the publication of the implementation of the consultation is not sufficiently visible and transparent on their website. Deficiencies in quality of the report on the conducted consultation, ie non-explanation of all received proposals and opinions, which the users point out, were also confirmed by the conducted monitoring. The planning of the normative process, the identification of acts suitable for consultation, the deadlines for the implementation of public consultation and the appropriate processing of comments are still issues that require more attention on the part of those obliged to implement public consultation. On the other hand, e-participatory budgeting in Croatia is an example of good practice, not being legally prescribed as mandatory. It has spread by diffusion from one local unit to another on the shoulders of citizens-oriented mayors and civil society organizations. Since the legislation does not oblige local units to conduct public consultations in the budget adoption process, they can independently decide whether to discuss the budget proposal with the citizens. Therefore, the practice of local units is diverse, from not involving the public to some local government that conduct e-consultations or more refined PB models. To conclude, we recommend that the new instruments of participatory governance (especially online) should be precisely defined in the Croatian legislative framework. Local government could further develop new instruments in their statutes and general acts, in accordance with their capabilities. Ratification of the Additional Protocol to the European Charter of Local Self-Government would certainly contribute to strengthening the legal regulation of local self-government in accordance with democratic standards and practices. In addition, ratification of the Protocol would be an opportunity to promote citizen participation, in particular by making citizens aware of their rights and exercising them, but also by raising awareness of local officials and administration about their obligations to citizens, ie. to be open, transparent and accountable. The action plan should also ensure the implementation of activities aimed at strengthening participatory practices, especially the use of ICTs for participation, education, supporting instruments and publications, cooperation projects with citizens and the like (Musa, Dobrić Jambrović, 2018.).<sup>28</sup> The Protocol can therefore, in its legislative and promotional potential, make a significant contribution to the development of good local governance.

28 Musa, A., Dobrić Jambrović, D. (2018). Participacija na lokalnoj razini kao standard Vijeća Europe: uloga Europske povelje o lokalnoj samoupravi i Protokola o pravu na sudjelovanje u poslovima lokalnih vlasti. In I. Koprić (ed.) Europeizacija hrvatske lokalne samouprave: Dva desetljeća primjene Europske povelje o lokalnoj samoupravi (p. 272). Zagreb: Institut za javnu upravu.

**LITERATURE:**

1. *Budget(me)!*, Retrieved 4.4.2022. from <https://www.vojko-obersnel.com/hr/proracunaj-me/2019>.
2. *Budget of the City of Pula for you*. Retrieved 5.4.2022. from <http://www.proracun.pula.hr/>.
3. *City of Buzet*. Retrieved 5.4.2022. from <http://www.ebuzet.com/>.
4. Decision on the manner of financing the activities of local committees in the City (Official Gazette of Primorje Gorski-kotar County 41/08, 44/09, 46/12, 14/13 and Official Gazette of the City of Rijeka 13/15). Retrieved 4.4.2022. from <http://www.sn.pgz.hr/default.asp?Link=arhiva&godina=2013>, <https://sn.rijeka.hr/arhiva-2015/>.
5. Dobrić, D. (2014). *Europeanization of Local Self-government*. Doctoral thesis, Faculty of Law, Zagreb.
6. Đurman, P. (2016). Europeizacija javne uprave i načelo otvorenosti. In P. Đurman Godišnjak Akademije pravnih znanosti Hrvatske, Vol. 7, No. 1 (p. 342). Zagreb: Akademija pravnih znanosti Hrvatske.
7. e-Savjetovanja. Retrieved 10.4.2022. from <https://esavjetovanja.gov.hr/>.
8. Fürst, V., Prange, H., Wolf, D. (2002). *Globalization, Europeanization and All That: Sorting Out the Issues. The Examples of European States*, Paper at the ECSA-Canada Fifth Biennial Conference, Toronto.
9. Information Commissioner. (2022). Annual Report on the Implementation of the Law on the Right of Access to Information for 2021. Retrieved 11.4.2022. from (<https://pristupinfo.hr/>).
10. *iPazin*. Retrieved 4.4.2022. from <https://www.ipazin.net/>
11. Musa, A., Dobrić Jambrović, D. (2018). Participacija na lokalnoj razini kao standard Vijeća Europe: uloga Europske povelje o lokalnoj samoupravi i Protokola o pravu na sudjelovanje u poslovima lokalnih vlasti. In I. Koprić (ed.) *Europeizacija hrvatske lokalne samouprave: Dva desetljeća primjene Europske povelje o lokalnoj samoupravi* (p. 272). Zagreb: Institut za javnu upravu.
12. Musa, A., Koprić, I., Dobrić Jambrović, D., Đurman, P. (2022). *ICT Supported Participatory Governance at the Local Level in Croatia*. In M. Doucy, M. Dreyfus, N. Noupadya, S. Guerard, B. Kingwesi, Brice, A. Tudor, Antoniu (eds.), *Democratic and Electronic Changes in Local Public Action In Europe: REvolution or E-volution?* (p. 315). Paris: Institut Francophone pour la Justice et la Démocratie - Louis Joinet.
13. *My budget*. Retrieved 5.4.2022. from [https://proracun.sisak.hr/moj\\_proracun.html](https://proracun.sisak.hr/moj_proracun.html).
14. *New Apsolon study of digital readiness of cities*. Retrieved 5.4.2022. from <https://gradonacelnik.hr/smart-city/rijeka-i-pula-i-dalje-sampioni-digitalizacije-najveci-napredak-postigli-koprivnica-bjelovar-i-varazdin/>.
15. Open Government Partnership. Retrieved 10.4.2022. from <https://www.opengovpartnership.org/>.
16. *Pazin-Pazi(n), budget!* Retrieved 4.4.2022. from <https://www.udruga-gradova.hr/inpuls/pazin-pazin-proracun/>.
17. *Realized projects*. Retrieved 4.4.2022. from <https://www.rijeka.hr teme-za-gradane/aktivno-gradanstvo/participativno-budzetiranje-ukljucivanje-gradana-odlucivanje-proracunu/rijeci-program-lokalnog-partnerstva/realizirani-projekti/>.
18. *Savjetovanja s javnošću*. Retrieved 10.4.2022. from <https://ekonzultacije.rijeka.hr/>.
19. Shah, A. (2007). Overview. In A. Shah (ed.). *Participatory Budgeting* (p. 1). Washington: The World Bank.
20. Shulman, S. W. (2005). eRulemaking: Issues in Current Research and Practice. eRulemaking Research Group. p. 628.

21. Srivastava, M. (2009). *Globalisation and Public Administration: A study of the term “globalisation”- its nature, meaning, characteristics and impact on public administration*. Retrieved 8.3.2022. from [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1508013](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1508013).
22. Wampler, B. (2007). A Guide to Participatory Budgeting. In A. Shah (ed.). *Participatory Budgeting* (p. 21). Washington: The World Bank.



## THE EXPERIENCE OF REMOTE TEACHING IN HIGHER EDUCATION: A SCENARIO OF CHALLENGES AND OPPORTUNITIES

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### ABSTRACT

*This article aims to present and reflect on some of the results of a study on the perceptions of teachers and students in the Porto Metropolitan Area, regarding their experience with remote learning in Higher Education (HE), during the first period of COVID-19 confinement. In mid-March 2020, within a short space of time and with no prior preparation, the educational offer of HE institutions shifted from in-person teaching to remote online teaching, leading to a paradigm shift. All teaching and learning activities started to be conducted through digital platforms and technologies, rarely used before then, but which proved to be essential in times of social confinement. As such, it became necessary to offer continuous intensive training within the academic community, aiming to provide teachers and students with the digital skills required to effectively use and maximize the potential of the new teaching and learning platforms. This sudden and dramatic change in HE motivated us to understand the challenges of remote teaching, involving both teachers and students in this reflection, and the potential of the answers found. This study used qualitative methodology, wherein two data collection instruments were used: semi-structured interviews with 10 teachers from different institutions and subject areas, and opinion essays about the aforementioned experience by 9 students. To analyse the data derived from those sources, we conducted content analysis. The results obtained suggested that teaching and learning within a digital environment posed a great challenge, not only from a teaching perspective but also regarding the way students learn and the demand for greater responsibility. At the same time, this challenging scenario opened a window of opportunity for a new teaching paradigm to emerge, one that is based on the exclusive use of digital technologies. In addition to boosting the digitalization of pedagogical action, which was advocated for more than a decade in the Bologna Process, it opened new paths to reformulate teaching and learning processes in HE.*

**Keywords:** Digital learning, Digital technology, Higher education, Remote learning, Teacher training

## **1. INTRODUCTION**

The impact of the pandemic, which began in March 2020, and the consequent physical closure of educational institutions, led to an almost immediate shift from face-to-face teaching to emergency remote teaching - ERT (Hodges et al. 2020). In Portugal, there had never been such an experience in Higher Education. The biggest challenge faced by educational systems in recent times has been the disruption of the teaching and learning processes of students, in Portugal and in the world. This provided a broad reflection on new teaching methodologies, the creation of digital educational environments and the use of alternative forms of assessment (Guangul, et al. 2020). The reflection on how to teach and learn, in a process based on digital tools, has led to a change in the educational paradigm (Marshall, Shannon and Love, 2020), starting with educational technologies, and involving teachers and students in the same reflection and commitment (Flores and Swennen, 2020). It is important to mention that new technologies and active methodologies, inherent to student-centered learning (Gover, Loukkola and Peterbauer, 2019), were already part of a directive of the Bologna Process, which has taken a long time to be implemented (Veiga and Neave, 2015 ; Carvalho et al. 2020). In contrast, the advance of this educational change (UNESCO, 2020) took place in a matter of weeks, driven by the health emergency experienced on a global scale. The conceptual framework of student-centered learning assumes that both students and teachers are "critical consumers, creative producers of knowledge, co-managers of the teaching and learning processes and partners in pedagogical negotiation" (Jiménez Raya, Lamb and Vieira, 2017, p. 21), which presupposes a change of culture. Thus, it is of interest to rethink the experience of emergency remote teaching, in the context of Higher Education, in the first period of COVID19 confinement, considering the challenges and opportunities provided by the intensive use of digital tools.

## **2. REMOTE EDUCATION AND THE RECONFIGURATION OF HIGHER EDUCATION**

During the period of confinement resulting from the COVID-19 pandemic, it was necessary to move from the face-to-face classroom to a virtual classroom by adopting digitally mediated teaching. According to Hodges et al. (2020), the transition from face-to-face teaching to emergency remote teaching (ERT), aimed not to "re-create a robust educational ecosystem but rather to provide temporary access to instruction and instructional supports in a manner that is quick to set up and is reliably available during an emergency or crisis". In this transition process, teachers and students had to reflect, adapt, change, innovate and use digital platforms, with new student-centered strategies, suitable for ERT (Vale, et al. 2021). This virtualization of educational systems (Nobre and Mouraz, 2020), highlighted the need for teacher training and forced intensive training in the first period of the pandemic, focused on education technologies, to strengthen digital literacy (Rahim, et al. .al. 2020), undertaking a precursor experience of the reconfiguration of education for the digital age (European Commission, 2020). To achieve this, educational institutions had to become a space for change, in order to respond to disruptive changes in the way of teaching, interacting with students and reflecting on knowledge. In this sense, continuous training made it possible to guarantee the use of new technologies, as part of the processes of learning and appropriation of knowledge, in order to guarantee a differentiated and inclusive response for all students, in this initial period of confinement (Huber and Helm 2020; Judd et al. 2022; Flores, et al. 2021). Today, teacher training is consensually recognized as a quality factor in teaching and learning. The new roles played by teachers, students and the educational community had an impact on the educational process. It was necessary to address different levels of digital skills and inequality in access to technological resources, both for teachers and students. Studies carried out show that this led to different processes of adaptation to emergency remote teaching by the educational community, with previous experience of distance learning in some Higher Education institutions being advantages, as well as support at

the leadership level (Huber and Helm, 2020 ; König, Jäger-Biela and Glutsch, 2020). Globally, advances in the strategies used in remote teaching are recognized, as well as in the sharing of materials via digital platforms. However, the same did not happen in the evaluation strategies, especially in the summative evaluation. With regard to remote summative assessment instruments, several challenges arose in terms of equity and equal opportunities, given potential problems of plagiarism and lack of ethical values. In Higher Education, a planned and reasoned assessment is essential, which did not always occur in the pandemic period that imposed some flexibility on teachers and institutions. This situation was stressful for teachers who should be able to carry out a quality evaluation, which includes feedback to students about their learning. In the context of remote teaching, it has become important to rethink assessment practices as a constituent part of the teaching and learning process in the context of Higher Education (Bubb and Jones, 2020). Currently, although privileging face-to-face teaching, Higher Education continues to maintain digital platforms and tools in educational daily life, in order not to exclude any student, and to attend to the reality of the social dimension in Higher Education (Farnell, Skledar, Matijević, and Schmidt, 2021). Which sets up a hybrid model of teaching and learning (Uys, 2019).

### **3. METHODOLOGY**

With the purpose of understanding the perceptions of teachers and students about the experience of emergency remote teaching in Higher Education, during the first period of COVID-19 confinement, this exploratory study followed a qualitative methodology. Data collection, due to the recommended social isolation measures, was carried out online using accessible digital platforms and through two techniques: semi-structured interviews with teachers, carried out via Zoom, and balance sheets (opinion essays) produced and submitted in Moodle by students. This stage of the research course took place between the months of June and July 2020 and according to the availability of each of the participants. The group of study participants (n=20) consists of teachers (n=10) from different courses: Engineering, Psychology, Education, Law, Management, Tourism, Communication, International Relations and Architecture (in the text identified with the letter T ) and students (n=10) attending different courses and at different levels, who after our invitation consented to participate (in the text identified with the letter S). The interviews were conducted with the support of a script designed to collect information on the following dimensions: implementation of remote teaching through digital platforms, training of teachers in the use and maximization of digital platforms, collaborative work by teachers, planning and reflection on the renewal of practices in the educational community, student motivation and participation. The collected data, organized into two distinct groups, were initially submitted to content analysis using the NVivo version 12 Pro software. The analysis structure was defined through consensus among researchers and integrated previously established categories, based on the aforementioned dimensions and emerging categories, such as: “interpersonal relationships in the online teaching and learning process” and “access and experience with information technology and communication (ITC)”. In a second stage, the perceptions of the two groups of participants were triangulated. This methodological approach, guided by ethical principles, obtained informed consent from the participants regarding the purpose of the study, data collection procedures, protection of individuality, anonymity of participants and destination of the collected data.

### **4. RESULTS & DISCUSSION**

The presentation and discussion of the results begins with a brief review of the scenario that enabled the experience of remote teaching in Higher Education, as it was at the genesis of the present study and allows its contextualization.

#### **4.1. Remote learning in Higher Education: the possible alternative in times of pandemic crisis**

By spring 2020, the transition from face-to-face teaching to remote teaching, or online teaching and learning, became the possible alternative for Higher Education institutions to ensure the continuity of courses and student learning. The existence of available resources, such as the communication and collaboration platforms Zoom and Google Teams and the Moodle learning management system (Uys, 2019), facilitators of videoconferencing, file storage and sharing and communication, paved the way for rapid adoption of emergency remote teaching: "the order to switch from face-to-face to distance learning classes arrived on Friday, March 13, 2020, to start on March 16, 2020, the following Monday" (T6). As the data reveal, the Higher Education institutions, the teachers and the students, were not prepared for the transition to remote learning, however, and in the absence of an alternative, all actors made an effort to adapt, regardless of their level of knowledge and previous experience with digital tools. Despite the existence in the country of some teaching and learning experiences using new education technologies and the provision of e-learning courses in some universities, accessibility and effective use of digital platforms were not widespread in Higher Education.

#### **4.2. Remote learning in Higher Education: challenges**

The sudden digitalization of the educational offer in Higher Education, in an emergency context, has posed institutions, teachers and students a set of new challenges, in this article we highlight the following:

##### *4.2.1. Teachers training and digital skills*

The sudden entry into remote teaching has placed the Higher Education institutions of the study participants with the challenge of training teachers and students to develop the digital skills necessary for the proper use of digital platforms. At the same time, teachers and students were faced with the challenge of changing roles and practices, that is, of replacing the pedagogical approach, which, in the case of teachers, implies the challenge of pedagogical training. Most institutions sought to overcome the first challenge by offering an online training plan, of an optional nature, aimed at teachers (and students) for the acquisition and development of digital skills. The main objective of which was to ensure the efficient use of available digital platforms in the teaching and learning processes. The number of hours of training attended by each teacher varied greatly. If, for some of the teachers, this training was above all a possibility of improving and deepening their digital skills. For most teachers this was a new world to explore and training required greater investment. All teachers expressed satisfaction with this training offer. For some of the teachers, it was relevant because it allowed them to overcome the initial challenges and, above all, develop digital skills: "the competence changed significantly (...) from a total lack of knowledge to being able to ensure remote teaching" (T4). For others, users of new technologies in a personal context, as it constitutes an opportunity to know how to use them in the context of the classroom: "the need gave me some time to acquire knowledge and create a basis of confidence to use the platform for teaching" (T1).

##### *4.2.2. Knowledge and pedagogical skills for teaching online*

A significant part of the teachers quickly understood that in the virtual context of remote teaching, "student participation and collaborative work constituted a challenge" (T3) and, on the other hand, that "making a dynamic synchronous class (constituted) a greater challenge than than the face-to-face class" (T1). The new context placed them with the challenge of having to change pedagogical practices and resort to alternative teaching and learning strategies and methods that would allow them to engage, capture the attention and interest of students.

And it induced that, progressively and according to the specificity of the courses, they had introduced changes in the organization of classes and tried some of the so-called active methodologies, among others: project-based learning, debates, questioning, flipped classroom, practical exercises:

- Regarding the theoretical component, there was a need to reduce the duration of the teaching moments and the practical activities needed to be adjusted to distance learning and had to be reinforced with asynchronous activities. Small work groups were also created to be carried out collaboratively among the students and with the teacher -considering the resources provided by the platforms for monitoring by the teacher of the work to be done (T5).

Consequently, this first experience of online teaching contributed to the awareness of some of the teachers of their pedagogical limitations, both in terms of organization/planning of classes, as well as the strategies and methods of teaching and learning online and, like T2, had identified specific training needs that went beyond digital skills development:

- I am aware that I have to evolve more in the pedagogical practices of remote teaching. In any case, I believe that these practices have become even more consolidated in my teaching practice. // In fact, if it were not for this context, I would probably have postponed entering online teaching and the new pedagogical practices that this type of teaching requires to be successful (T2).

Thus, most teachers discovered, from their own experience, that the online teaching and learning ecosystem had requirements and included components, which alerted to the need for Higher Education institutions to reinforce the continuous training of teachers in the area of pedagogy in general, and in particular pedagogy for online teaching. This trend, however, was not widespread. A (reduced) group of teachers did not feel the need (or confidence to) change their pedagogical practices. The change, in these cases, was restricted to the incorporation of terminology from the e-learning environment and to the “transposition from face-to-face to non-face-to-face (...) with a minimum of changes in the *modus operandi*” (T3). In other words, maintaining the organization of face-to-face classes and the use of traditional methodologies in teaching mediated by digital platforms. If extensive theoretical classes, based only on exposition, often translate into a waste of time, in the context of emergency remote teaching, as highlighted by some students, they proved to be a decontextualized practice, which contributed to the demotivation, if not all, of a significant part of the students:

- Other teachers were not able to achieve learning with the new technological means that would motivate all students, (...), either because of the long hours of classes, or because of the archaic system (...), for the new platforms implemented, the integration of more active strategies is essential. that can capture students in a positive way (S5).

On the other hand, whenever teachers showed openness to the new modality and made an effort to change pedagogical practices, students reported that digital platforms had facilitated communication between peers, collaborative work and learning, valuing its impact in improving results, but above all the active role they had taken on in their learning process:

- We started to arrange online meetings between colleagues in the after-school period, and the work was being done literally in groups, with live text readings, debates on controversial aspects, and that for me was the best part! I learned a lot from my colleagues, and I had the feeling that I was contributing in a unique way to their learning, in peer work (S7).

The change in the student's role in the learning processes was also reported and valued by the teachers, who recognized that the introduction and persistence of active pedagogical practices had stimulated the involvement and interaction of students, effectively making them more attentive and participative.

#### *4.2.3. Remote assessments*

Data analysis also revealed that, in the context of emergency remote teaching, the summative end-of-semester assessment also posed challenges for both teachers and students. Although the former received specific training on assessment via the Moodle platform, for some of the interviewed teachers, summative assessment was the biggest challenge. This theme, in addition to being central to the reports, continued to be the subject of questioning, which constitutes evidence that this challenge persisted:

- It was in terms of assessment that I felt most distressed. I tried to learn as much as possible in the training sessions made available by the university on the assessment tests carried out by Moodle. I think I still have a lot to develop in this area! Of all aspects, I believe that the difficulties and challenges arising from the assessment moments in the online modality made me critical of this option (...) online assessment should be done in a closed system, otherwise irregularities can be many (T2).

In the group of students, the challenge of summative assessment also emerged. Some of them reported concerns similar to those of the teachers, they considered that the tests/assessment tests should be carried out exclusively in a face-to-face context, arguing that neither the tool used (Moodle), nor the care taken in order to avoid potential fraud, made it possible to ensure the fairness of the process. One of the students, curiously, also defended that the summative assessment should be face-to-face, his position stemmed from the level of anxiety generated by the reduced time available to take the online tests and the impact of this on his performance level - a reason that had nothing to do with the validity of the process. For other students, the online summative assessment did not pose any challenge, on the contrary, they considered that the submission of tests or works through the digital platform was the most correct and appropriate to the context. The assessment challenge also manifested itself in terms of formative assessment and teacher feedback. The reports of some students referred the lack of articulation between the new strategies and methods of teaching and learning and the assessment, underlining that the fact that they did not receive any feedback on the work carried out “did not allow them to overcome the difficulties or mistakes made”. ” (S7), and thus drawing attention to the role of formative assessment and teacher feedback as strategies for learning.

#### *4.2.4. From remote learning to blended learning*

- I believe that the use of digital platforms can be complemented with face-to-face teaching, namely Moodle, Teams, and Zoom, should be maintained in the next academic year 2020-2021 (S6).
- I believe that there are advantages in distance learning, in small and medium-sized classes and with more solid pedagogical practices. That is why I advocate a hybrid system and not entirely online (T1).
- The face-to-face/non-face alliance will be an excellent recipe because it exploits the benefits of both solutions and mitigates their respective drawbacks (T4).

Finally, the analysis of the participants (teachers and students) about this experience of teaching and learning in an online environment reveals that most prefer face-to-face teaching, however, they recognize that new educational technologies facilitate communication between those involved in the educational process and can sponsor active learning.

In this sense, most recommend for the future the continuity of its use in face-to-face learning environments. In other words, it recommends a mixed learning environment where face-to-face and online activities can be integrated. This constitutes a new challenge for Higher Education, and calls on institutions, teachers and students to develop and ensure mixed learning environments that can be effective.

#### **4.3. Remote learning a window of opportunities**

Spring 2020, was an unprecedented time for Higher Education, in Portugal and worldwide. Emergency remote teaching had already been used locally to overcome specific crisis situations, but this was the first time that this resource was used globally for all levels of education from preschool to Higher Education. Never before at a national and international level had there been a need to close down Higher Education, so ERT had never been used on a global scale. Although the experience was not perfect and weaknesses are recognized in the solution found, in line with other authors we also find that it fulfilled its main function: to ensure that teachers had the resources, support and conditions to continue teaching and students had the resources, infrastructure and support to continue learning (Doucet, et al. 2021). In Higher Education institutions, as in schools in general, there was no “contingency plan” to deal with crisis situations, so the first approach was based on existing knowledge and experience, namely in the field of online teaching and digital learning. It is important, however, to emphasize that, contrary to what some initially thought and wrote, this field of research and practices cannot be confused with emergency remote teaching (Hodges et al. 2020), among other reasons for its unforeseeable and unplanned nature. The results of this study showed that, with Higher Education institutions providing access to digital tools, and training for their use, both teachers and students, supported by technological devices (their own), were able to move, with greater or less ease and safety, from face-to-face teaching to ERT. Although there are significant organizational and pedagogical differences between digital learning and remote teaching, the latter shares some of its components, namely the use of multiple technological and digital tools. This circumstance contributed to the fact that the experience under analysis, even though it was temporary, proved to be a window of opportunity for increasing digitization and innovation in Higher Education. In a time of crisis, the important thing was to encourage each of the actors (principals, teachers, and students) to do the best they knew and were able to do to ensure the continuity of the courses (Doucet, et al. 2021). However, the use of digital systems and technologies in teaching and learning processes alone is not able to ensure a scenario of pedagogical innovation. Therefore, it was up to the teachers to make the pedagogical choices that best fit their students' needs and the virtual context. As the study revealed, not all pedagogical options were the most appropriate, however, as there was no training offer in the area of pedagogy, it was not expected that teachers would become, in such a short space of time, specialists in teaching in a virtual context. . However, in line with other studies (Nobre and Mouraz, 2020), the results showed that, with the exception of the aforementioned exceptions, ERT had positive impacts both on conceptual change and on the change in teachers' practices and, therefore, on their pedagogical training. This occurred mainly in the field of practices, it was not planned, teachers sought to discover alternative methods, share positive experiences with peers, and share the responsibility for learning with students, progressively making them co-managers of their learning processes. Another dimension that, in the context of emergency remote teaching, was subject to change was the assessment of learning, this however posed some challenges, on the one hand, the fear that the virtual context could compromise the right of students to reliable assessments. On the other hand, the progressive use of more active and participatory methodologies required that teachers, in line with them, began to use alternative forms of assessment, formative assessment, the respective feedback, or “assessment for learning” (Clark., 2014) creating opportunities for success and developing

transversal skills for lifelong learning in students. Despite the challenges it posed, it is undeniable that this experience of remote assessment (re)opened the debate on assessment, created a space for questioning and reflection among both teachers and students, and therefore constituted a relevant opportunity to rethink assessment in Higher Education. Finally, most of the actors involved claimed to have a preference for the face-to-face teaching model, however, they recognized that digital platforms made communication more flexible in time and space and, to that extent, facilitated interaction between all actors in the community. In this sense, both teachers and students considered that digital platforms were an asset to the teaching and learning processes and that they should be integrated into the classroom teaching environment, thus giving rise to a mixed learning environment.

## 5. CONCLUSIONS

In the context of the COVID-19 pandemic crisis, ERT took on a major role in Higher Education in Portugal, as in most countries. However, due to its emergency nature, its implementation, in most cases, was not accompanied by all the necessary resources and support, which contributed to compromising essential quality standards in terms of teaching and learning. Despite the difficulties identified, and having been experienced in a very different way by the different protagonists, we believe that this unprecedented experience not only achieved its main objective, but also configured an opportunity for the renewal of teaching and learning processes in Higher Education. The study carried out showed that ERT online had a set of positive impacts on Higher Education. It was a strong driver of the digitalization of teaching and learning and boosted the development of digital skills of teachers and students. Thus achieving, in a short space of time, an objective pursued by the Bologna Process over the last two decades. It induced a part of the teachers to seek information, training and to change their pedagogical practices, pressured by the challenges posed by educational technologies and by the mediation of the teaching and learning processes by digital platforms. It embodied an opportunity to adopt an alternative pedagogical approach to the traditional one and to privilege student-centered learning, to reconfigure the teacher's role as a facilitator of learning, providing students with greater autonomy in the educational process. In other words, it represented an opportunity for a paradigm shift in teaching and learning in Higher Education, another of the aspirations of the Bologna Process. At the same time, it drew attention to the potential of virtual learning communities in the continuing education of teachers. In this period, the pedagogical training of teachers resulted mainly from the teachers' initiative, their self-mobilization, individual research and pedagogical experience in a work context, but also from shared reflection among peers in a virtual context. It generated interest and deepened the analysis and reflection around the blended learning model, a model enhanced by the pedagogical use of technologies and digital platforms, which has been asserting itself as a bet for the future in Higher Education and opening path for the study of new pedagogical models.

## LITERATURE:

1. Bubb, S. and Jones, M. A. (2020). 'Learning from the COVID-19 homeschooling experience: Listening to pupils, parents/carers and teachers'. *Improving Schools*, 23(3) 209–222. doi:org/10.1177/1365480220958797
2. Carvalho, A., Teixeira, S., Olim, L., Campanella, S. and Costa, T. (2020). 'Pedagogical innovation in higher education and active learning methodologies – a case study'. *Education+ Training*, 63(2), pp.195-213. doi: org/10.1108/ET-05-2020-0141
3. Clark., T. (2014). 'The Components of a Digital Age Learning Ecosystem'. [online] *BYOT Network*. Available at: <https://byotnetwork.com/2014/07/06/the-components-of-a-digital-age-learning-ecosystem> (Retrieved 3. May. 2022).



4. Comissão Europeia (2020). 'Plano de Ação para a Educação Digital 2021-2027. Reconfigurar a educação e a formação para a era digital'. Available at: <https://education.ec.europa.eu/pt-pt/plano-de-acao-para-a-educacao-digital-2021-2027>.
5. Doucet, A., Netolicky, D., Timmers, K. and Tuscano, F.(2020). 'Thinking about pedagogy in an unfolding pandemic: an independent report on approaches to distance learning during the COVID19 school closures'. *Learning Portal*. Available at: <https://learningportal.iiep.unesco.org/en/library/thinking-about-pedagogy-in-an-unfolding-pandemic-an-independent-report-on-approaches-to> (Retrieved 3. May. 2022).
6. Farnell, T., Skledar, A., Matijević, N. and Schmidt, Š. (2021). The impact of COVID-19 on higher education: a review of emerging evidence: analytical report. Available at: <https://op.europa.eu/en/publication-detail/-/publication/876ce591-87a0-11eb-ac4c-01aa75ed71a1/language-en> (Retrieved 3. May. 2022).
7. Flores, M. and Swennen, A. (2020). 'The COVID-19 pandemic and its effects on teacher education'. *European Journal of Teacher Education*, 43(4), pp.453-456. doi: org/10.1080/02619768.2020.1824253
8. Flores, M., Barros, A., Simão, A. M. V., Gago, M., Fernandes, E. L., Pereira, D., Ferreira, P. C. e Costa, L. (2021) 'Ensino remoto de emergência em tempos de pandemia: a experiência de professores portugueses'. *Revista Portuguesa de Investigação Educacional*, (21), pp. 1-26. doi: 10.34632/investigacaoeducacional.2021.10022
9. Gover, A., Loukkola, T. and Peterbauer, H. (2019). 'Student-Centred Learning: Approaches to Quality Assurance'. *European University Association*. Available at: [https://eua.eu/downloads/publications/student-centred%20learning\\_approaches%20to%20quality%20assurance%20report.pdf](https://eua.eu/downloads/publications/student-centred%20learning_approaches%20to%20quality%20assurance%20report.pdf) (Retrieved 3. May.2022)
10. Guangul, F., Suhail, A., Khalit, M. and Khidhir, B. (2020). 'Challenges of remote assessment in higher education in the context of COVID-19: a case study of Middle East College'. *Educational Assessment, Evaluation and Accountability*, 32(4), pp.519-535. doi: org/10.1177/0031721720970702
11. Hodges, C., Moore, S., Lockee, B., Trust, T. and Bond., A., (2020). 'The Difference Between Emergency Remote Teaching and Online Learning'. *EDUCAUSE*. Available at: <https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning>. (Retrieved 3. May. 2022).
12. Huber, S. and Helm, C.(2020). 'COVID-19 and schooling: evaluation, assessment and accountability in times of crises—reacting quickly to explore key issues for policy, practice and research with the school barometer'. *Educational Assessment, Evaluation and Accountability*, 32(2), pp.237-270. doi: org/10.1007/s11092-020-09322-y.
13. Jiménez Raya, M., Lamb, T. and Vieira, F., (2017). *Mapping Autonomy in Language Education: A Framework for Learner and Teacher Development*. doi: 10.3726/b11095.
14. Judd, J., Rember, B., Pellegrini, T., Ludlow, B. and Meisner, J. (2022). "This is Not Teaching": The Effects of COVID-19 on Teachers - Social Publishers Foundation. *Social Publishers Foundation*. Available at: [https://www.socialpublishersfoundation.org/knowledge\\_base/this-is-not-teaching-the-effects-of-covid-19-on-teachers](https://www.socialpublishersfoundation.org/knowledge_base/this-is-not-teaching-the-effects-of-covid-19-on-teachers) (Retrieved 3. May.2022).
15. König, J., Jäger-Biela, D. and Glutsch, N. (2020). 'Adapting to online teaching during COVID-19 school closure: teacher education and teacher competence effects among early career teachers in Germany'. *European Journal of Teacher Education*, 43(4), pp.608-622. doi: org/10.1080/02619768.2020.1809650.
16. Marshall, D., Shannon, D. and Love, S., (2020). 'How teachers experienced the COVID-19 transition to remote instruction'. *Phi Delta Kappan*, 102(3), pp.46-50. doi: org/10.1177/0031721720970702

17. Nobre, A. and Mouraz, A. ( 2020). 'Reflexões sobre os efeitos da pandemia na aprendizagem digital'. *Dialogia*, (36), pp.367-381. doi: 10.5585/dialogia. n36.18722.
18. Rahim, E., Burrell, D., Duncan, T. and Finch, A.(2020). 'Best Practices and Emerging Trends for Knowledge-Based Organizations and Academic Institutions around E-Learning'. *International Journal of Smart Education and Urban Society*, 11(2), pp.16-27. doi: 10.4018/IJSEUS.2020040102.
19. UNESCO (2020). '1.3 billion learners are still affected by school/university closures' Available at: <https://en.unesco.org/news/13-billion-learners-are-still-affected-schooluniversityclosures-educational-institutions> (Retrieved 3. May. 2022).
20. Uys, Ph.(2019). 'Educational Technology for Active Connections in Blended Learning Environments'. *European Distance and E.Learning Network Conference Proceedings*, 183-190. doi: org/10.38069/edenconf-2019-ac-0021
21. Vale, A., Coimbra, N., Martins, A. and Oliveira, J. (2021). 'Education and innovation: impacts during a global pandemic in a higher education institution'. *SHS Web of Conferences*, 92, p.01053. doi.org/10.1051/shsconf/20219201053
22. Veiga, A., and Neave, G. (2015). 'Managing the dynamics of the Bologna reforms: How institutional actors re-construct the policy framework'. *Education Policy Analysis Archives*, 23(59). doi: org/10.14507/epaa.v23.1891

## FISH FARMS IN THE REPUBLIC OF MOLDOVA - ISSUES AND TRENDS

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### ABSTRACT

*The paper proposes a research on the current state of commercial aquaculture fish farms in the Southern Region of the Republic of Moldova. Carrying out a scientific study on the aquatic system provides valuable information on the current state of ponds in the area and allows the development of measures to optimize the activity of the fisheries sector. In order to increase the fish productivity of aquaculture farms, it is necessary to apply appropriate technological principles for rational exploitation - restoring the fish herd and raising valuable species. The main objective of the study is to identify areas favourable to the development of aquaculture in the south of the Republic of Moldova and to maintain potential reserves at optimal limits, to increase fish production in ponds. In this research, an interview-type survey was conducted (using a questionnaire) with the managers of the 5 farms in the study area. Research has shown that most farms grow common species of carp or Asian cyprinids, by using industrial feed. The technological size of fish farms is small / medium, with only one farm having a large production capacity. The study identified the causes of low production of local fish farms, proposing feasible solutions for economic recovery. Based on the research, a pattern of organizational decision-making and investments in aquaculture farms in the Republic of Moldova could be proposed. The study was conducted in doctoral research, and may have an impact on the business environment and fish farms.*

**Keywords:** *aquaculture, profitability, fish farm, Republic of Moldova*

### 1. INTRODUCTION

The use of fish ponds has become one of the main forms of aquaculture production in the Republic of Moldova. Of the national territory, the total area of rivers, lakes and ponds is about 95,000 ha, of which only 7.5% is used in fisheries (Munteanu Pila and Stanciu, 2019). A distinctive feature of aquaculture ponds in the Republic of Moldova is the growing of fish in polyculture, which makes it possible to use efficiently the natural capacities of the pond, with the growth of fish at different trophic levels (Bogheruk, 2000). Polyculture is mainly focused on growing common carp and Asian cyprinids, as well as predatory species such as perch, pike or European catfish. Aquaculture has a history of over a thousand years in the territory, but the variety of fish species for industrial growth is limited. This is associated with the lack of fish farming technologies on the fish farm compared to other livestock sectors, which is largely explained by the specific characteristics of biological growth and development due to climate, water quality, pond productivity, the surface of the water, or the species of fish (Sumak, 2019). To date, the production potential of fish ponds in the Republic of Moldova has been used inefficiently due to the predominance of native fish, valuable species in natural ponds and a small number of productive fish species in commercial fish farming (Munteanu Pila, Stanciu, 2020).

## **2. SHORT LITERATURE REVIEW**

Improving the efficiency of agricultural productivity in the current technological state must be combined with the rational use of water sources in order to protect fish fauna. Technological methods may be different, but the fundamental principles must aim at an integrated approach to aquatic resources and a rational development of aquaculture production (Sumak, 2019). The presence and quantity of household waste, of various types (detergents, pesticides, stable waste) is constantly increasing, affecting the aquatic ecosystems in the southern part of Moldova. One of the (acceptable) ways to control pollution is to involve the pond in a human-controlled biological process, based on the metabolic adaptation of plants and animals to anthropogenic impact, according to natural conditions, anthropogenic impact, nature and concentration of pollutants that reach the pond (Korjagina 2013). In order to capitalize on fish farming in natural water bodies, where the natural feeding of fish is essential, the food consumption coefficient is determined by quantifying the water surface and the production we have in the pond, evaluating daily the feeding factor, related to each breed and to fish production. A technological system is considered balanced if the aquatic ichthyofauna is suitable for the reproduction of fish. (Munteanu Pila and Stanciu 2020). One of the most acute problems in implementing a sustainable strategy for the development of fish farming in the Republic of Moldova is the lack of qualified personnel who can quickly and efficiently implement activities specific to industrial fishing, transfer and technology management, through the immediate use of technological innovation. (Lagutkina, Ponomarev, 2013).

## **3. MATERIAL AND METHODS**

Clarivate Analytics, Scopus and Academic Scholar were used for documentation. Aquaculture fish farms in the south of the Republic of Moldova were evaluated. The research used a survey based on a questionnaire, completed by the managers of the evaluated farms. The information required for the research was collected over a period of 1 year. The data obtained (by completing the questionnaires) were statistically processed using spreadsheet methods, represented graphically and analyzed. The results were compared with scientific articles from the literature for validation.

## **4. THE AQUACULTURE IN THE SOUTHERN AREA OF THE REPUBLIC OF MOLDOVA**

The main objective of the study is to analyze the aquaculture farms in the southern region of the Republic of Moldova, used especially for raising indigenous fish. To achieve this goal, the following steps were followed: Analysis of the current state of fish farming in the area; Determining the role of local production on the national market; Technological efficiency analysis for pond production; Determining the influence of external and internal factors on economic efficiency; Identification of favorable areas for the development of fish farming in the analyzed region. In assessing the development prospects of the various areas of commercial fish farming in the southern region of the Republic of Moldova, priority should be given to pond fish farms. Development in this direction would partially offset the losses due to overfishing of valuable fish in natural waters and would contribute to increased consumption at no additional cost. Restoring the natural reserves of fish allows to increase aquatic productivity. Rational exploitation of pond-type reservoirs will make it possible to preserve the herd for many fish breeds and become a valuable source of marketable native species in the future. In order to increase the productivity of pond fish in the region, it is necessary to develop biological criteria and technological principles for their rational exploitation (reconstitution of ichthyocenoses and formation of valuable fish species). The current ecological status of 5 ponds in the southern region of the Republic of Moldova was studied and the bio-efficiency in the area was evaluated. The ponds where the studies were conducted are located 15-40 km from the city of Cahul.

The southern region of the Republic of Moldova has an excessive continental climate, with a short spring and a cyclonic rise in air temperature, ensuring a rapid warming of the water during the active period of the fish. The coldest month of the year is January (water temperature  $-6^{\circ}\text{C}$ ), and the warmest period is July ( $+25^{\circ}\text{C}$ ). In May-July there is a water temperature between  $22$  and  $27^{\circ}\text{C}$ . The frost-free period of water lasts 240 - 255 days, while for 120 days a year, the water has an air temperature higher than  $+20^{\circ}\text{C}$ , being favourable for the reproduction of many species of fish. An optimal temperature and an appropriate level of light penetration into the water decisively influence the biological productivity in the pond. In the 5 analysed ponds, an importance in the formation of phytoplankton is given to the diatom. Together with the blue-green algae, it produces centres for the development of juvenile fish in local ponds. The optimum growth biomass is usually observed between July and September. During the spring, in the 5 ponds, diatoms accounted for up to 92.9% of the total biomass. In Taraclia, grass carp that feed exclusively on phytoplankton are intensely raised. This is beneficial for cleaning the algae and reed pond, reducing additional costs. The ponds in Bucuria and Taraclia de Salcie are invaded by green algae during March-August, which affects the transparency and penetration of light into the water. This process is difficult to control due to the lack of this breed of fish. In Pelina's pond this breed of fish could not be acclimatized due to the fact that the pond was created by man and it was difficult to adapt the natural measures as a biotope. During floods, in conditions of rapid warming of the water, the level of zooplankton increases, and in the second half of May their amount is maximum. During the summer, it was established that the main contribution to the formation of zooplankton and biomass abundance is due to copepods and *Cladocera*. In the 5 ponds studied, the decrease of *Cladocera* biomass was observed in September compared to May. A questionnaire of 14 questions was used to achieve the purpose of the research, which involves a set of questions to assess the functional status and methods of directional preparation of the farm; establishing the yield of each pond; evaluation of the production capacities of the studied tanks for the final commercial products; knowledge of the nutritional spectrum and nutritional relationships of indigenous fish breeds, raised in polyculture. The questions were addressed to the owners of 5 fish farms in the southern region of the Republic of Moldova, specialized in raising indigenous fish in the polyculture system. The analysis revealed the problems that have favoured the growth of local production in the area and allows a long-term development strategy of fish farming, which can be used as a model in national decision-making in organizational and investment policies at the national level.

Questions and answers:

1) Is the farm located in the protected area? (YES (inside) /NO (outside))

The share of respondents is 100%. The 5 farms, located in Taraclia, Bucuria, Pelinei, Libidenco, Taraclia de Salcie, are not part of the protected natural areas, being located near the city of Cahul, and have the potential to develop aquatic resources.

2) What culture system of fish breeding do you practice?

a) Microsystem; b) Medium; c) Large/commercial.

According to the research, Bucuria farm has a small capacity of production, being used for breeding indigenous fish. Pelinei, Libidenco and Taraclia de Salcie have a medium capacity and Taraclia it is a large farm having a commercial system for production (Figure 1).

*Figure following on the next page*

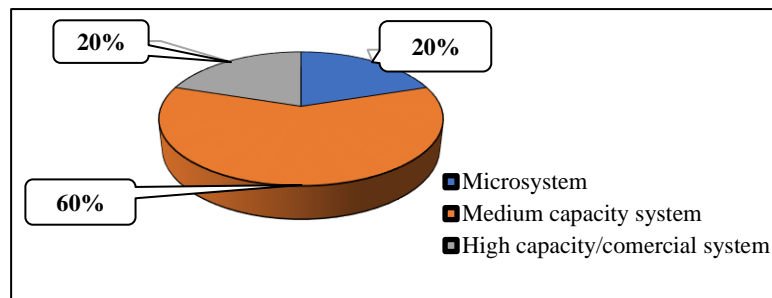


Figure 1: Culture system  
(Source: Own research)

3) What fish species are raised in the pond?

a) Carp; b) Zander; c) Bighead Carp; d) Silver Carp; e) Prussian Carp; f) Welsh catfish; g) Perch  
According to the survey, 5 farms, representing a 100 % of total, are breeding Common Carp, Bighead Carp, Silver Carp (Figure 2).

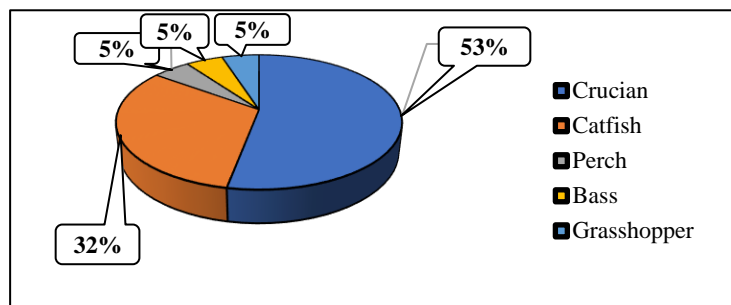


Figure 2: Species of fish in farms (%)  
(Source: Own research)

Only 3 fish breeding farms breed the Prussian carp. In the farm in the Taraclia, Prussian Carp enters accidentally in the pond, as a migrating fish. The farm in the Taraclia breeds together grass carp, that self-cleaning the phytoplankton in the pond. Zander and perch are found in very small quantities in Taraclia de Salcie, and this fish farm tends towards to acclimatize these species.

4) The productivity calculated for the aquaculture system is: a) up to 100 kg fish/year; b) up to 500 kg fish/year; c) up to 2,000 kg fish/year; d) more than 2,000 kg fish/year.

2 ponds (Bucuria and Libidenco) are producing up to 500 kg fish/year, and 3 ponds (Taraclia, Pelinei and Taraclia de Salcie) are producing more than 2,000 kg fish/year (Figure 3).

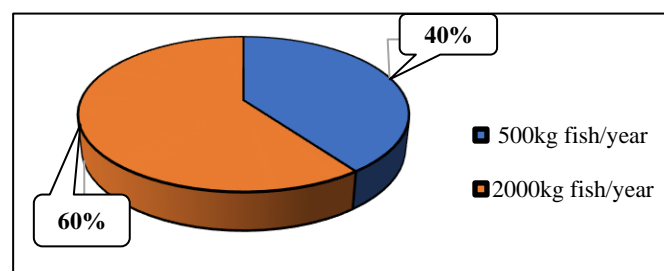


Figure 3: Productivity of each pond in the Southern region of the Republic of Moldova  
(Source: Own research)

A pond is considered efficient and bio-effective if it reflects one of the most important aspects - productivity.

5) Is productivity in line with system standards? (YES NO); If YES, please estimate the amount (fish) caught in the last year.

Taraclia, the largest fish farm, produced 50 tons of fish last year. The company was established 8 years ago and grows species in polyculture, with a very good profitability, according to aquaculture regulations (1 ton of fish / ha). Another 4 farms raise native fish species, according to their own practice. For example, the Bucuria fish farm has 0.43 ha, has a fish production of 700 kg or the Taraclia de Salcie pond with 2 ha has a production of 8 t, which creates a lot of problems: lack of natural resources in the pond, decrease the percentage of oxygen in the water, and the small water surface of the basin leads to overcrowding, which does not allow a correct growth of fish. (Figure 4).

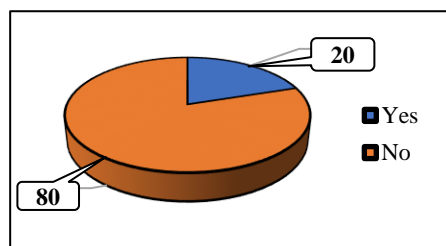


Figure 4: Estimated productivity according to the system's normative  
(Source: Own research)

6) What type of feed do you use to raise fish? : a) live feed; b) feed shredded at the mill with *Polygonum aviculare*; c) shredded feed; d) other kind of feed.

Taraclia, the largest farm in the southern region, makes shredded fodder on the farm, consisting of: ground sunflower, wheat, bailey, and an addition of vitamins to obtain the resistance of fish against aggressive environmental factors. The other 4 farms (Pelinei, Bucuria, Taraclia de Salcie, Libideco) use crushed mill feed (corn, elder, wheat), mixed with *Polygonum aviculare* (common knotgrass) (Figure 5).

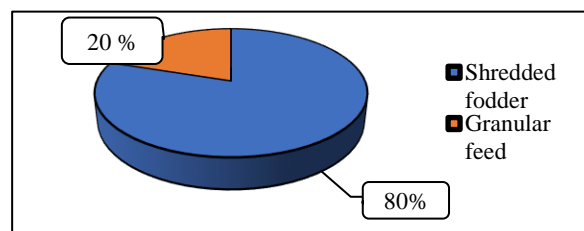
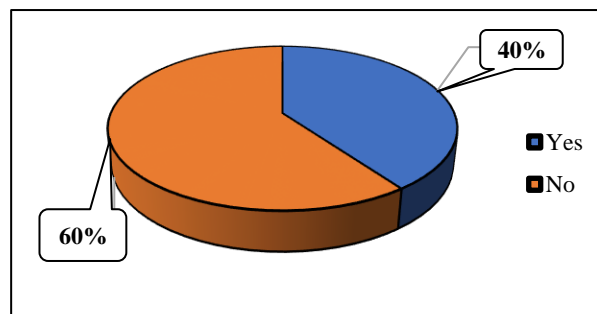


Figure 5: Feed used for breeding indigenous fish.  
(Source: Own research)

7) The feed complies with the physiological nutritional requirements of the fish? (YES/NO); An affirmative answer was given by all respondents (100%). Applying various individual methods, based on their own practice or according to aquaculture standards, the owners of the 5 farms respond that the feed administered to the fish complies with the daily physiological and nutritional requirements of the fish, for each species. The owners of the farms in Libideco, Pelina, Bucuria, Taraclia de Salcie manage the feed only selectively.

If the bottom of the basin has been emptied, then another portion of feed is administered - a practice that is not allowed by standards, due to the fact that it will increase the water mass, causing the decomposition of the remaining feed, and thus favoring the water mineralization process. At the Taraclia farm, the aquaculture standards are respected, being fed according to the production, age, fish species and water area.

8) Does the (water) source normally provide enough water to allow the fish to grow year-round? (YES/NO). If NO, what are the sources when the water supply is not enough?

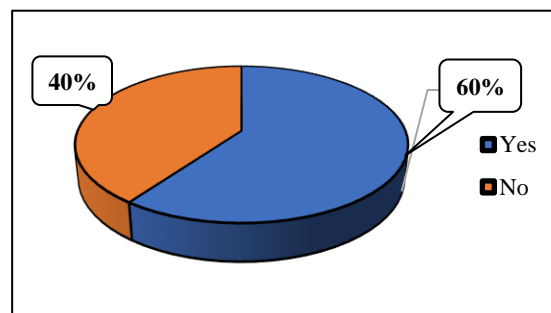


*Figure 6: Sufficient water in the farm?*  
(Source: Own research)

Of the 5 farms analyzed, Pelina and Taraclia de Salcie responded that during the summer the water decreases due to drought. Taraclia de Salcie had losses in the summer of 2017. Approximately 2 tons of fish died due to the drought. At Pelinei, the worst time of year for fish farming is at the end of July - beginning of August, when the water level drops from 3 m to 1.2 m, due to high temperatures and lack of rain in the area. The joy is difficult during the summer, when temperatures rise to 39 ° C and the water drops from 2.7 to 1.2 m, causing the fish to suffocate due to the small surface of the pond. The farm in Taraclia has enough water throughout the year because the farm is located near the river Ialpuș, and the water comes through the canals, feeding the pond when needed (Figure 6).

9) Is there a procedure for monitoring the water quality within the farm? (YES/NO).

The monitoring of the water quality within the farms is carried out by the Ministry of Environment of Cahul. Taraclia monitors the quality of the water in the pond twice a year, carrying out the necessary investigations: one before to populate the pond, and the second before the catch of the fish. Pelinei made water research once a year in a laboratory in Ukraine, mainly to detect the causes of mortality of valuable fish breeds (especially in springtime). Bucuria has never made water quality investigations (Figure 7).



*Figure 7: Monitoring the water quality in the pond.*  
(Source: Own research)



10) Is there a proper management of wastewater to avoid contamination of surface and groundwater? (YES/NO).

Taraclia has no wastewater because there are no potential sources of water contamination in the area (agricultural land, gas stations, livestock farms, plants). Pelinei uses wastewater to irrigate agricultural land in the area. This is dangerous for the fish population because the rain washes the treated farmland (e.g. with pesticides) and the water reaches the pond, causing losses among the fish population. Taraclia de Salcie, after selling the fish, evacuates the water from the pond in October, leaves the pond during the winter until spring and then floods the pond again to repopulate with the fish. Bucuria does not apply any wastewater management, claiming that the pond provides natural self-cleaning processes (Figure 8).

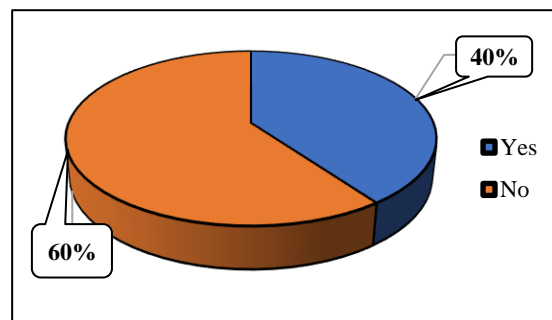


Figure 8: Used water management system  
(Source: Own research)

11) In the farm is it used the organic fertilisers? (YES/NO). What are those and how often are they applied?

The percentage of people who answered YES is 100%. Organic and mineral fertilizers are of great importance in increasing the natural food content (benthos, zooplankton, zoobenthos) of water bodies. No farm in the southern region of the Republic of Moldova uses organic fertilizers to increase the productivity of the pond. Fish farmers do not know the benefits of organic fertilizers when the pond fails to have a natural ichthyofauna balance, which allows the growth of valuable fish in large quantities.

12) Compared to the specific standard in aquaculture, which is the size of the fish obtained from farm production: a) Smaller; b) Equal c) Higher.

The biggest problem facing farms in the region is the growth of valuable fish (carp, silver carp, grass carp) up to a weight of more than 5 kg. Most farms produce fish weighing 1.5 kg - 2 kg. Only Taraclia managed to grow carp weighing more than 5 kg in larger quantities, over 250 kg carp / ha, and Libideco common carp up to 2.5 kg - 3.2 kg (Figure 9).

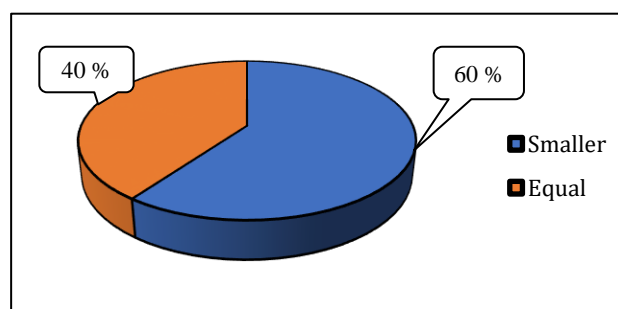


Figure 9: Size of the fish fished in the pond.  
(Source: Own research)

13) Is the fish sick or unfit for trade killed under appropriate conditions and the legal procedure is followed? (YES NO).

According to the results of the survey, only Taraclia complies with the appropriate conditions for monitoring sick fish or fish unfit for sale. The diseased fish is transported to the laboratory in Cahul, at the Ministry of Environment, to look for the cause of the disease that occurred among the fish population. The other 4 farms apply the method of burying sick fish in the ground, a method that endangers the fauna of the environment. When it rains, this method can affect groundwater, even the pond, causing a mass disease of the fish population (Figure 10).

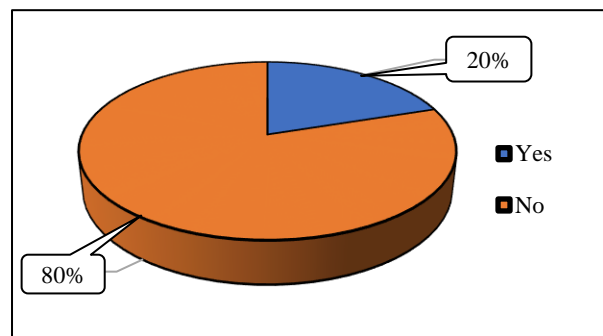


Figure 10: Correct monitoring of the sick fish.  
(Source: Own research)

14) Is there an action plan to avoid hypoxia or algae flourishing? (YES/NO).

Only 3 of the farms analysed raise grass carp, a breed of fish that feeds exclusively on phytoplankton. This species of fish helps clean the pond's reeds and algae, reducing maintenance costs (Figure 11).

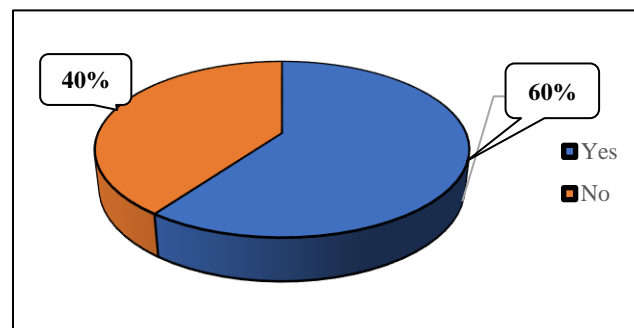


Figure 11: Avoiding the algae flourishing.  
(Source: Own research)

## 5. CONCLUSIONS

The practical importance of the study is given by the evaluation of the real potential of some fishing areas in the south of the Republic of Moldova, thus contributing to a better use of local aquatic resources. Most farms in the area grow fish based on the practice gained over the years, with a lack of modern technology and employees with skills in fishing. Most farms cannot increase their production in their own ponds due to the fact that they do not take into account or do not know the aquaculture standards. Major investments are needed for the development of the fishing sector in the area for cleaning, maintenance, regular water quality studies and establishing the real productivity of the pond. The results of this research may be useful in managing the strategic development of the aquatic sector of the Republic of Moldova.

## LITERATURE:

1. Bogheruk, A., (2000), Biological and organizational-methodological bases of fish selection, Ichthyology, pp3-53, Retrieved 21.05.2022, <https://www.dissercat.com/content/biologicheskie-i-organizatsionno-metodicheskie-osnovy-seleksionno-plemennogo-dela-v-rybovod>.
2. Korjagina, N. Y. (2013). System of water using of anthropogenic agglomerations as way of increase of efficiency of use of water resources. In: The State and Perspectives of Aquaculture Development, Reports of the International Conference on Science and Practice (Moscow, All-Russian Exhibition Center, 5-6 February 2013). M.: Publishing House of the State Agricultural University of Russia KA Timiryazev, 2013—495, Coordinators: Servetnic G.E., Bagrov A.M., Zaharov V.S., Malahin I.M., Şulighina N.K., Şişanova E.I., 208-220.
3. Munteanu Pila, M., Stanciu, S., 2020, Researches on the recovery of aquatic productivity in the basins located in the Southern Region of Moldova, 35 IBIMA Conference: Vision 2020: Sustainable Economic Development and Application of Innovation Management from Regional expansion to Global Growth (Seville, Spain, April. 1-2, 2020), Retrieved 11.05.2022, <https://ibima.org/accepted-paper/researches-on-the-recovery-of-aquatic-productivity-in-the-basins-located-in-the-southern-region-of-moldova>.
4. Şumak, V., (2019), Rational methods of increasing the efficiency of fish farming, Retrieved 21.04.2022 <http://aquacultura.org/upload/files/pdf/library/dissert/%D0%A8%D1%83%D0%BC%D0%B0%D0%BA1.pdf>.

## **REASONS FOR DISSATISFACTION OF EMPLOYEES IN THEIR WORKPLACES IN PRIVATE AND STATE-OWNED COMPANIES IN THE REPUBLIC OF CROATIA AND POSSIBLE WAYS TO MOTIVATE EMPLOYEES**

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### **ABSTRACT**

*Human resources are the bearers of all business activities in the company and are needed to carry out all business processes, realize the vision and mission of the company, retain new customers and attract existing customers or clients. Only satisfied employees will give the maximum in their jobs. Dissatisfied employees will not be in the service of achieving the company's business goals. Managers should be aware of the importance of human resources in companies in which they are leaders, establish constant care for human resources, monitor the work of employees, praise their efforts and ultimately reward the most successful employees. The aim of this paper is to find out whether employees are satisfied with the working conditions in their workplaces, whether they receive praise for their efforts and commitment in the workplace from their employer, whether they are dissatisfied with their jobs and how the employer could motivate them at work. 39.6% of respondents would change their current job and a high percentage of respondents (48.4%) would resign from their current job in the event of a better business offer from another employer. 49.1% of employees are dissatisfied with the organization of the number of trainings and seminars by their employer, while 45.1% of employees stated that they do not have the possibility of promotion. Only 22.3% of employees are satisfied with their current job. According to employees, in the first place as a motivating factor is a high salary (31.8%), then the empathy of employers towards employees, praise for the work of employees by the employer, then all other motivating factors. The leading reason for employee dissatisfaction in private and state-owned companies in the Republic of Croatia in their jobs, according to employees, is low wages (15.4%), followed by high stress (13.5%) and incorrect superiors (12.8%), followed by all other factors. There is no statistically significant difference according to gender in the attitudes of the respondents about the change of the current job. Recommendations for employers are to increase the salaries of employees, to enable the advancement of employees and to show respect to employees, recognition for their work and effort and showing empathy towards employees, because this is what they wish for.*

**Keywords:** *employees, employee dissatisfaction, ways of motivating employees, managers, human resources*

## 1. INTRODUCTION

Only employees satisfied with their working conditions can achieve excellent results in their daily work. Human resources are the most important resource of all business organizations, although many companies are not aware of this fact and do not care about human resources. Employees feel when an employer takes care of them and when they don't, based on tangible and intangible benefits. The basic material factor of employee satisfaction in their jobs is salary, then incentives, rewards, official car, laptop, official mobile phone, paid education and seminars and other material factors. In addition to material factors of job satisfaction, employees also care about intangible job satisfaction factors, such as a good work atmosphere, correct superiors, correct work colleagues, stress levels, teamwork, respect and empathy of the employer and colleagues and other intangible factors. According to research by Miklošević et al employees in private and state-owned companies in the Republic of Croatia, when choosing between a high salary and a good work atmosphere, choose a good work atmosphere, which is the leading intangible factor of employee satisfaction in their jobs. Many employers point out that their employees are the most important, but in practice, unfortunately, they do not show this by their example. The aim of this paper is to find out, based on scientific research, what are the reasons for employee dissatisfaction, whether employees are exposed to stress in their workplaces and how their employer could motivate them. After the research, statistical processing of data obtained by the research, hypotheses will be tested, research questions will be answered and recommendations will be given to employers on how to motivate their employees and which is the leading motivating factor, but also the reasons for employee dissatisfaction. Communication between employees and between employees and managers is very important for business success and satisfaction of both parties, employees and managers. Managers are responsible for establishing two-way communication in the company. The authors Miklošević et al (2022) conclude in a study that employees are of the opinion that their managers can successfully communicate with them if they make an effort, regardless of the completed level of education of managers. The authors also conclude that respondents have more problems in communicating with superiors than with co-workers, and as the main problem in communicating with managers, employees cite the lack of time of their superiors to communicate with them. For managers to have satisfied employees in their jobs is important that they find time to communicate with them, respect employees and appreciate their effort and work. The possibility of advancement, which the employee deserves for his work, is a very important factor in employee satisfaction in the workplace. Promotion is a recognition of the effort and work of employees and most often implies a higher salary for work. Organizing trainings and seminars in companies provides employees with the acquisition of new knowledge, renewal of existing knowledge, a higher level of security in doing business and employee competitiveness. It is not enough for company managers to organize and encourage trainings and seminars, but employees should be also aware of the fact that private and business progress is only possible with continuous effort, commitment, education and work to increase knowledge and acquire new skills. A satisfied employee will give the maximum in his workplace and the effort and commitment of employees will be reflected in the business results of the company, as well as in the satisfaction of clients and customers.

## 2. LITERATURE REVIEW

Strategic human resource management implies a model of planned allocation of human resources, which should enable the company to achieve its goals (Noe et al, 2006). Human resources are responsible for the growth and development of the company, the satisfaction of end customers, the improvement of business processes and they are the bearers of all business activities in the company (Turkalj and Miklošević, 2017). Every company has a certain vision and mission, rules, goals, values, habits and norms.

All of the above can change over time. Employees may also change their behaviour, values, goals, attitudes, or beliefs as a result of the influence of the company in which they work. (Cingula et al, 2013). Bogdanović and Zelenika (2011) state as solutions for the accelerated development of the Republic of Croatia: creating a clear concept of development (production/creative, not trade) and economic strategies in the field of basic reproductive units (agriculture, industry, services) and application of human resource macro management for the needs of basic reproductive units. Managers have a great task to achieve the set organizational goals at the lowest cost and in the best possible way, with the satisfaction of all employees and customers (Turkalj et al, 2016: 19). According to Sikavica et al (2008: 126), people are the most important resource of any organization and influence the organization with their knowledge and ability. The width of the control range and the depth of the organizational pyramid affect employee satisfaction. With the help of human resources management, a strategic advantage can be achieved, because no other resource, except human resources, has the power to create new products and services (Bogdanović and Zelenika, 2011). Managers are responsible for the organizational unit, the achievement of business goals, mission and vision and the achieved business result. However, managers cannot achieve all the above on their own, but with the synergy of the entire team, with the synergy of employees and managers. Human resources are a resource in organizations without which organizations would not exist and it is necessary for managers to take care of this valuable resource, by responsibly acquiring human resources, developing their skills and abilities, rewarding agility, effort, commitment and innovative ideas. When employees do not have the opportunity to participate in some decisions concerning the company in which they work, then they will not be motivated for work, they will not give enough effort and they will not progress in professional and personal development so consequently the development of the company in which they work could slow down. Of course, strategic decisions are made by managers, but they should involve employees in generating new ideas, making operational decisions and enabling employees to highlight shortcomings they see in the current business organization and suggestions for resolving gaps and improving the existing situation. Employees should also be associates to managers, not just executors. A work atmosphere is very important for generating new ideas as well as teamwork. Teamwork enables the generation of new ideas through the joint efforts of all employees and improves mutual communication between all employees and all team members, which will have a positive impact on the organizational climate of the company and the company's operations. Tense interpersonal relationships do not bring positive effects neither for the employees nor for the company in which they are employed. Teamwork contributes to the dissemination of new ideas and greater synergy within the company (Stanić et al, 2017). Teamwork is key to organizational success, as pointed out by Becker et al (2013). The use of leadership styles, according to Sikavica et al (2008: 484) affects employee satisfaction and employee attitude towards the manager. Using a completely democratic or completely autocratic style of leadership influences the behaviour of co-workers at work. An important factor of motivation is the organizational culture that prevails in the organization. The possibility of continuous improvement, development and the possibility of advancement are strong factors for motivating employees. Motivation is the process of initiating and directing efforts and activities to achieve personal and organizational goals, but employees are also responsible for self-motivation. (Sikavica et al, 2008). It is important for companies to identify factors that affect work processes, primarily quality factors, uncertainty, risks and opportunities, in order to achieve efficient business. (Brlečić Valčić et al, 2016). The most important part of any organization is human resources and they, with their knowledge, skills and creativity, contribute the most to achieving the company's goals (Sigurnjak, 2016: 959). The need of the company for staff who can cope with the most challenging business conditions, unstable internal and external environment of the company and to change the diverse needs of customers or clients of the company is increasing

(Miklošević, 2022). Vukajlović et al (2012) state that the motivation of employees in companies arises not only from material factors, but also from a large number of intangible factors. Motivated employees achieve higher work performance, and as a result, the overall performance of the organization increases (Brnad et al, 2016). Sikavica et al (2008) point out that full participation in organizations can be achieved by applying the following guidelines: involve everyone in everything, highlight achievements and recognize contributions, spend a lot of time on people, train and educate people, provide incentive pay for everyone, provide security employment and eliminate bureaucratic rules. Tung (2016) states that talent management is becoming one of the tools needed to achieve organizational goals. Mandhanya (2016) emphasizes the need to establish an effective talent rewards policy in companies and it contributes to sustainability and the creation of economic, social and financial value of companies. Kanter (1984) emphasizes that even the slightest individual effort of an employee can trigger major changes in companies. Kulaš and Knežević (2011) note that today's companies have realized that with the departure of employees, the intellectual capital in which they invested also goes away. According to Hansen and Leuty (2012), employees expect greater meaning in their work and flexibility in their work.

### **3. MOTIVATION OF EMPLOYEES AND REASONS FOR DISSATISFACTION OF EMPLOYEES IN THEIR WORKPLACES**

Employee motivation is also related to the satisfaction or dissatisfaction of employees in their jobs. Only satisfied employees will be motivated for daily work and work in their jobs and give the maximum of their intellectual abilities to achieve the business goals of the company. The results of the research by Daraboš (2013) showed that the highest management is most involved in the strategic decision-making process, as expected, and this negatively affects employee motivation. Every employee, regardless of their position in the company, should participate in the process of defining and creating a mission and vision in order to feel that their opinion is valued. This would contribute to greater motivation of employees and increase their desire to work and stay in the company. According to Turkalj and Miklošević (2017), the delegation of tasks by managers to employees affects employee motivation, but for managers to be able to delegate tasks to employees, they must have confidence in employees. During the COVID-19 pandemic, managers were faced with numerous changes in the performance of managerial functions (Miklošević et al, 2022), and especially in the function of planning and organizing, to make it more difficult to predict uncertain business events. Mulyani et al (2019) found that leadership has a partially positive and significant effect on employee motivation. A dissatisfied worker is not an efficient worker, and a satisfied worker who makes the maximum contribution during each working day will have an impact on the business results of the company in which he is employed. There are many reasons for employee dissatisfaction in their jobs: inability to advance, low salary, high workload, inadequate organization in the company, incorrect superiors and work colleagues, high levels of stress and many others. The aim of this paper is to find out what are the reasons for employee dissatisfaction in their jobs, what is the leading reason for dissatisfaction and how the employer could motivate employees.

### **4. RESEARCH METHODOLOGY AND RESEARCH RESULTS**

The survey was conducted online (Google Forms), during March and April 2022, on a sample of 273 respondents (employees) employed in private and state-owned companies in the Republic of Croatia (N=273, without restrictions on the region, gender and education of respondents). Private companies also include the founders of their own companies. Only employees were examined, regardless of the number of years of age and education. The following scientific methods are used in the research: method of proof, sample method, description, comparison, survey method and statistical methods.

The following research questions were asked:

- RQ1: *Are employees dissatisfied with their workplace and what are the reasons for dissatisfaction?*
- RQ2: *Do employees want to change their current job?*
- RQ3: *Do employees have the opportunity to advance in their current job?*
- RQ4: *Would employees resign from their current job in the event of a better offer from another employer?*
- RQ5: *How can an employer motivate employees, according to employee attitudes?*

The following hypotheses have been set:

- H1: *According to employee attitudes, the leading motivating factor in the workplace is higher salary*
- H2: *According to employee attitudes, the leading factor in employee dissatisfaction is incorrect superiors*
- H3: *There is a statistically significant difference according to gender in the respondents' attitudes about changing their current job*

213 women (78.0%) and 60 men (22.0%) participated in the research. The largest number of respondents have a university degree, 138 respondents (50.5%), 87 respondents have completed high school (31.9%), 40 respondents have completed a master's degree (14.7%) and 8 respondents have completed a doctorate (2.9%). The largest number of respondents, 163 respondents (59.7%) are employed in a state-owned company, 87 respondents are employed in a private company (31.9%), while 23 respondents (8.4%) are founders of their own company.

Table 1 shows the respondents by age. The youngest respondent (employee) is 19 years old and the oldest respondent is 63 years old. 25% of respondents are up to 35 years old, 50% of respondents are up to 40 years old, while 75% of respondents are up to 48 years old. The age difference between the youngest and oldest respondents is 44 years.

N	Valid	273
	Missing	0
Mean		41.01
Median		40.00
Mode		40.00
Std. Deviation		8.88
Variance		78.87
Range		44.00
Minimum		19.00
Maximum		63.00
Percentiles	25	35.00
	50	40.00
	75	48.00

*Table 1: Age of respondents*  
(Source: author's work according to research results)

The work experience of the respondents is shown in Table 2. The minimum work experience of the respondents is 1 year, while the highest work experience of the respondents is 39 years of work experience. 25% of respondents have up to 10 years of work experience, 50% of respondents have up to 16 years of work experience, while 75% of respondents have up to 22.50 years of work experience.



The difference between the minimum and maximum length of service of the respondents is 38 years of service and the average length of service of the respondents is 16.31 years.

N	Valid	273
	Missing	0
Mean		16.31
Median		16.00
Mode		15.00
Std. Deviation		8.88
Variance		78.97
Range		38.00
Minimum		1.00
Maximum		39.00
Percentiles	25	10.00
	50	16.00
	75	22.50

*Table 2: Work experience of respondents*  
(Source: author's work according to research results)

Respondents were asked if they would change their current job (Table 3). A large percentage of respondents (39.6%) would change their current work, and perhaps 30.8% of respondents would change. 29.7% of respondents would not change their current job.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	108	39.6	39.6	39.6
	maybe	84	30.8	30.8	70.3
	no	81	29.7	29.7	100.0
	Total	273	100.0	100.0	

*Table 3: Change of current job*  
(Source: author's work according to research results)

Table 4 shows the attitudes of the respondents regarding the possibility of advancement in the current job. The majority of respondents (45.1%) stated that they do not have the possibility of promotion, while a third of respondents think that they have the possibility of promotion (33.3%) and may have the possibility of promotion (21.6%).

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	91	33.3	33.3	33.3
	maybe	59	21.6	21.6	54.9
	no	123	45.1	45.1	100.0
	Total	273	100.0	100.0	

*Table4: Possibility of advancement*  
(Source: author's work according to research results)

Furthermore, as Table 5 shows, respondents stated that they were mostly dissatisfied with the number of organized trainings and seminars (49.1%), sometimes 19.8% were satisfied, while 31.1% of respondents were satisfied with the number of organized trainings and seminars.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	85	31.1	31.1	31.1
	no	134	49.1	49.1	80.2
	sometimes	54	19.8	19.8	100.0
	Total	273	100.0	100.0	

*Table 5: Employee satisfaction with the organized number of trainings and seminars*  
(Source: author's work according to research results)

Whether employees would resign from their current job, in case of a better offer from another employer, is shown in Table 6. A high percentage of respondents answered yes to this question (48.4%), while 31.5% of respondents said they might resign from their current job in case of a better offer from another employer. 20.1% of respondents would not resign under the assumption of a better offer from another employer.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	132	48.4	48.4	48.4
	maybe	86	31.5	31.5	79.9
	no	55	20.1	20.1	100.0
	Total	273	100.0	100.0	

*Table 6: Termination at the current job in case of a better offer from another employer  
(Source: author's work according to research results)*

The reasons for employee dissatisfaction with their jobs are shown in Table 7. 22.3% of respondents said they were satisfied with their current job. The leading reason or factor of employee dissatisfaction in their jobs is low salary (15.4%), followed by high stress (13.5%), incorrect superiors (12.8%), then poor work atmosphere, inability to advance, poor job organization and other factors of employee dissatisfaction in their workplaces.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	I am satisfied	61	22.3	22.3	22.3
	poor communication	10	3.7	3.7	26.0
	poor work organization	14	5.1	5.1	31.1
	incorrect superiors	35	12.8	12.8	44.0
	inability to progress	18	6.6	6.6	50.5
	carelessness about HR	13	4.8	4.8	55.3
	low salary	42	15.4	15.4	70.7
	large volume of work	12	4.4	4.4	75.1
	knowledge is not valued	6	2.2	2.2	77.3
	vaccination pressure	4	1.5	1.5	78.8
	bad working atmosphere	21	7.7	7.7	86.4
	a large amount of stress	37	13.5	13.5	100.0
	Total	273	100.0	100.0	

*Table 7: Reasons for employee dissatisfaction in their workplaces  
(Source: author's work according to research results)*

How the employer could motivate employees is shown in Table 8. The answers are originally shown, and the same or very similar answers are not shown in the table more than once. This presentation aims to recommend to employers which motivational factors in the workplace are desired by employees.

*Table following on the next page*

<b>How could your employer motivate you?</b>	
Wages and a better attitude towards workers	Additional seminars
Car parking	Higher salary
Free days and additional materials for work.	Sometimes with some stimulation
Correct attitude	By increasing salary and accountability
Stimulation	Additional education
Praise for working with merit and monetary compensation, throughout the year.	Better organization of work
Compassion for the worker	Respectfully
Availability	Accolades for doing a good job
Better attitude towards employees	That most working days, and it would be desirable even all of it, pass without stressful situations, which appear mostly unjustified
A better job	Official vehicle
Working environment	It can only motivate me by taking better care of employee rights
Correct attitude	Education and free Sunday
Paid training in more distant places, travel	A one-time award regardless of the amount, as a sign that he recognized work and effort
Better working conditions	Raising and advancing
Higher salary and work in a good team	Salary and a good working atmosphere
An additional salary bonus	Correct attitude
Agile approach	Possibility of advancement
By advancing in the workplace	By rewarding
By investing more in the progress of the company itself	A better understanding of the responsibilities of my work tasks
By reward or praise, that is, observation of the quality of work and success of employees	Better communication
By investing in employees (education, promotion)	Just understanding is enough
Additional educations because there are never enough of them	A little better behaviour
Correctness and respect	Paid travel expenses for attending a seminar or education
Good attitude and salary	By engaging in various other business processes
Better working conditions	Free days
Praise and a higher salary	Quality communication, trust and conditions for growth and progress
With good and honest behavior	Honest conversation and a higher salary
Praise	I am motivated enough
Clear directions and knowledge	Optimism
Honest work, education, qualified colleagues	Sincerity
Praise for a job well done	Foreign education
Through training, specialization and awards	A more responsible approach to workers and your company
Enough to mention that this is about any improvement of knowledge, that is enough motivation.	To discuss and take into account my arguments
Better communication, rewarding, promotion	Business travel, training opportunities, salary
Team building	Temporary transfer to work in other bodies
Through cooperation, communication, exchange of opinions and constructive discussion, respect	Better communication and relationship with employees
By giving feedback, getting involved in business, holding meetings and courses, etc.	Communication, respect, joint meetings, not through other people or emails
Possibility of development	Clear instructions and tasks
Better listening and respecting the opinions of professional staff	With its own example
That nothing changes from what it is now is enough motivation for me.	The employer himself does not know the real problems and what kind of employees he has in the company. We are a large company, with several branches. It would be enough for managers to appreciate effort, work, loyalty and responsibility towards work.

*Table 8: Ways of motivating employees by the employer according to the attitudes of employees*

*(Source: author's work according to research results)*

How employers can motivate their employees, according to employee attitudes, is shown in Table 9.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	higher salary	86	31.8	31.8	31.8
	further education	5	1.8	1.8	33.6
	better organization of work	17	6.2	6.2	39.8
	advancement	18	6.6	6.6	46.4
	additional seminars and trainings	25	9.1	9.1	55.5
	better working hours	4	1.5	1.5	56.9
	days off	6	2.2	2.2	59.1
	salary incentives	19	6.9	6.9	66.1
	praise for the work	26	9.5	9.5	75.5
	empathy towards employees	34	12.4	12.4	88.0
	good working atmosphere	10	3.6	3.6	91.6
	correct attitude of superiors	23	8.4	8.4	100.0
	Total	273	100.0	100.0	

*Table 9: Ways of motivating employees by the employer according to the attitudes of employees*

*(Source: author's work according to research results)*

The leading motivating factor according to the attitudes of employees is a higher salary, which is chosen by 31.8% of respondents. In second place as a motivating factor is empathy towards employees (12.4%), and in third place as a motivating factor employees chose praise for the effort and work of the employer (9.5%). The motivating factor in the fourth place is the organization of additional seminars and education, the fifth place is occupied by the correct attitude of superiors, followed by: salary incentives, promotion, better work organization, good working atmosphere, days off and finally additional education and better working hours.

Table 10 shows Chi-Square Tests for respondents' gender variables and their attitudes about changing their current job. There is no statistically significant difference between the gender of the respondents and the attitudes about the change of the current job,  $X^2(1, N=273) = 1.16$ ,  $p=.282$ ). Therefore, the third hypothesis (H3: *There is a statistically significant difference according to gender in the respondents' attitudes about changing their current job*) is not accepted.

Chi-Square Tests					
	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.156 <sup>a</sup>	1	.282		
Continuity Correction <sup>b</sup>	.832	1	.362		
Likelihood Ratio	1.126	1	.289		
Fisher's Exact Test				.328	.180
Linear-by-Linear Association	1.151	1	.283		
N of Valid Cases	273				

a. 0 cells (0,0%) have expected count less than 5. The minimum expected count is 16,70.  
b. Computed only for a 2x2 table

*Table 10: Gender difference in employees' attitudes about changing their current job*  
*(Source: author's work according to research results)*

Considering the results of the research, the first hypothesis is accepted (H1: *According to employee attitudes, the leading motivating factor in the workplace is higher salary*) because a high percentage of respondents (31.8%) chose higher salary as the first motivating factor. The second hypothesis is not accepted (H2: *According to employee attitudes, the leading factor in employee dissatisfaction is incorrect superiors*), because according to the survey the leading factor of employee dissatisfaction is low salary, chosen by the highest percentage of respondents (15.4%), out of 12 possible reasons employee dissatisfaction in their workplaces.

## 5. CONCLUSION

Based on the conducted research, according to employees, employers can motivate employees, in the first place, with a higher salary (selected by 31.8% of respondents), then, in second place, by empathy for employees (selected by 12.4% of respondents). In third place, as a motivating factor, according to the attitudes of employees is praise for the work of employees (selected by 9.5% of respondents). Then, there are ways of motivation: additional seminars and education, correct attitude of superiors, salary incentives, promotion, better work organization, good working atmosphere, days off, additional education and last, but not least, better working hours. According to the results of the research, the leading motivating factor in private and state-owned companies in the Republic of Croatia is the material factor of higher salary. Only 22.3% of employees are satisfied with their current job. Employees want the employer to show more empathy for them, more compassion, and for the employer to show them respect and praise for their hard work. The leading reason for employee dissatisfaction at their jobs is low salary (15.4%), followed by high stress (13.5%), incorrect superiors (12.8%), poor working atmosphere, inability to advance, poor work organization and other factors of employee dissatisfaction at their jobs. A high percentage of respondents (45.1%) said they do not have the opportunity to advance, and 39.6% of respondents would change their current job in the event of a better offer from another employer, while 49.1% of employees are dissatisfied with the number of trainings and seminars. There is no statistically significant difference according to gender in the attitudes of the respondents about the change of the current job. Recommendations for employers are as follows: find a way to increase the salaries of employees, enable employee advancement, show employees respect and recognition for their efforts and work, and show empathy and understanding for the needs and feelings of employees, because employees wish for their employer to show empathy for them.

## LITERATURE:

1. Becker, T. E., Ullrich, J. and van Dick, R. (2013). Within-person variation in affective commitment to teams: Where it comes from and why it matters. *Human Resource Management Review*, 23(2), pp. 131-147.
2. Bogdanović, M., Zelenika, R. (2011). Strateški menadžment u funkciji ubrzanog razvoja Republike Hrvatske. *Ekonomija/Economics*, 17 (2), pp. 357-388.
3. Brlečić Valčić, S., Dimitrić, M. and Dalsaso, M. (2016). Effective project management tools for modern organizational structures. *Pomorski zbornik*, 51 (1), pp. 131-145.
4. Brnad, A., Stilin, A. and Tomljenović, Lj. (2016). Istraživanje motivacije i zadovoljstva zaposlenika u Republici Hrvatskoj. *Journal of the Polytechnic of Rijeka*, 4 (1), 109-122.
5. Cingula, D., Primorac, D., Borović, F. (2013). Changes in top management – whether person should have more influence on company policy or vice versa? *Organizational, Financial, Ethical and Legal Issues of Corporate Governance*. Tipurić, D. and Podrug, N.(eds). Zagreb: CIRU – Government research and development centre
6. Daraboš, M. (2013). Perception of the importance of the strategic planning for the employees motivation. *2<sup>nd</sup> International Scientific Conference Economic and Social Development* Filipović, D. and Goltnik Urnaut, A. (eds), Paris, April 2013, pp. 943-950.

7. Hansen, J.-I. C. and Leuty, M. E. (2012). Work values across generations. *Journal of Career Assessment*, 20 (1), pp. 34-52.
8. Kanter, R. M. (1984). *The Change Masters*. Simon and Schuster
9. Kulaš, A, Knežević, S. (2011). Corporate social responsibility activities in the conditions of recession, *International conference Interdisciplinary Management Research VII*, In Bacher, U., Barković, D. (eds), Osijek: Josip Juraj Strossmayer University of Osijek, Faculty of Economics in Osijek, Croatia, Postgraduate Studies "Management" Hochschule Pforzheim University, pp. 293-303.
10. Mandhanya, Y. (2016). Compensation Policy a Tool; Fostering Employee Retention. *Pacific Business Review International*, 8 (18), pp. 101-108.
11. Miklošević, I., Markuz, A. and Sigurnjak, L. (2022). Basic management functions – challenges during the Covid-19 pandemic. Ribeiro et al. (eds). *Proceedings of Economic and Social Development, 78th International Scientific Conference on Economic and Social Development*. Aveiro: Varaždin Development and Entrepreneurship Agency and University North. Aveiro, 24-25 February, 2022, pp. 104-113.
12. Miklošević, I, Vretenar Cobović, M. and Markuz, A. (2022). Comparison of employee salary as a material factor of workplace satisfaction with other intangible factors of workplace satisfaction, *79th International Scientific Conference on Economic and Social Development*, Machrafi, M., Učkar, D., Šušak, T. (eds), Rabat, 25-26 March, 2022, pp. 25-34.
13. Miklošević, I., Vretenar Cobović, M., Markuz, A. (2022). Reasons for one-way communication and possible ways to improve communication in companies from employees' point of view. *Proceedings of International conference Interdisciplinary Management Research XVIII*. Erceg, A., Požega, Ž. (eds), Opatija: Josip Juraj Strossmayer University of Osijek, Faculty of Economics in Osijek, Postgraduate Studies Management and Hochschule Pforzheim University, pp. 298-318.
14. Miklošević, I. (2022). Lifelong learning, additional education and attendance of seminars and education of employees in private and state-owned enterprises in the Republic of Croatia. *82nd International Scientific Conference on Economic and Social Development - "Post-Covid Economy in Africa and emerging countries"*. Maghni, A. (ed). Tangier, 23-24 May, 2022, pp. 75-85.
15. Mulyani, S.R., Sari, V.N. and Sari, M.W. (2019). The model of employee motivation and cooperative employee performance. *Polish Journal Of Management Studies*, 20 (2), pp. 379- 390.
16. Sikavica, P., Bahtijarević–Šiber, F. and Pološki–Vokić, N., (2008), *Temelji menadžmenta*, Školska knjiga, Zagreb
17. Stanić, L., Miklošević, I. and Glavaš, J. (2017). Analiza zastupljenosti timskog rada u osiguravajućim društvima, *Ekonomski vjesnik: časopis Ekonomskog fakulteta u Osijeku*, Osijek, 1/2017, pp. 129-140.
18. Sigurnjak, L. (2016), Human Resources impact on the financial success in manufacturing industry in Republic of Croatia, *Interdisciplinary Management Research XII* Barković, D; Bacher, U. (eds). Josip Juraj Strossmayer University of Osijek, Faculty of Economics in Osijek, Opatija,, pp. 958-967.
19. Noe, R.A., Hollenbeck, J.R., Gerhart, B. and Wright, P.M. (2006). *Menadžment ljudskih potencijala: postizanje konkurentne prednosti*. Zagreb: Mate
20. Turkalj, Ž., Miklošević, I. and Stanić, L. (2016). Business intelligence as support to management and management system, *Interdisciplinary management research XII*. Barković, D; Bacher, U. (eds). Josip Juraj Strossmayer University of Osijek, Faculty of Economics in Osijek, Opatija, 2016, pp. 17-28.

21. Turkalj, Ž., Miklošević, I. (2017). Factors which affect managers' decisions on delegation in companies, *Interdisciplinary management research XIII*. Barković, D; Bacher, U. (eds). Josip Juraj Strossmayer University of Osijek, Faculty of Economics in Osijek, Opatija, 2017, pp. 17-35.
22. Tung, R. L. (2016). New perspectives on human resource management in a global context. *Journal of World Business*, 51(1), pp. 142-152.
23. Vukajlović, Đ., Stamatović, M. and Urošević, S. (2012). Analysis of the satisfaction and motivation tangible and intangible motivational factors. *Entrepreneurial Learning*, 2 (1), pp. 263-271.

## **ANALYSIS OF JOB SATISFACTION AND MACHIAVELLIAN MANIFESTATIONS AMONG EMPLOYEES AT THE WORKPLACE**

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### **ABSTRACT**

*The aim of the paper is to examine job satisfaction and manifestations of manipulation in employees of public and private sector companies. The paper focuses on the work environment. The empirical part of the paper examines whether the work environment contributes to the job satisfaction of employees in the field of work performance with a focus on Machiavellian manifestations. Two hypotheses were established examining the differences in selected attributes of job satisfaction and Machiavellian manifestations in terms of respondents' education and income. The research was carried out using two standardized methodologies: the Life Satisfaction Questionnaire and the CASADI Questionnaire to determine Machiavellian manifestations in employees. The research was conducted on a sample of 133 respondents, of which 84 (63%) were women and 49 (37%) men. In terms of the highest level of education attained, 64 (48%) respondents had a secondary education and 69 (52%) a higher education. Of the total number of respondents, there were 85 (64%) employees whose net monthly income did not exceed 1,200 euros and 48 (36%) employees whose net monthly income exceeded 1,200 euros. The established hypotheses were verified through descriptive statistics and statistical analysis in the SPSS statistical program. The output of the paper is an evaluation of job satisfaction and manipulation of employees with regard to the work environment. Within the differences according to the achieved education, statistical significance was recorded in the attribute of Machiavellian manifestations: diplomacy. Higher average values were measured for employees with a university degree. Within the differences according to income, we record statistical significance in the attribute of job satisfaction: financial situation. Higher average values were measured for employees with a net monthly income of over 1,200 euros. Research shows that attitudes towards money play a crucial role in terms of unethical behavior.*

**Keywords:** Education, Income, Job satisfaction, Machiavellianism, Manipulation



## 1. INTRODUCTION

All organizations are interested in what they should do to achieve a consistently high level of employee performance. It is therefore essential to pay increased attention to the most appropriate way to motivate employees through different management tools, such as different incentives, rewards and leadership. In terms of employee satisfaction, not only the approach of the employer but also relations in the workplace contribute to the overall well-being. The importance of superior-subordinate communication is a key element of an organization's enduring success (Kassing, 2008; Lee & Jablin, 1995). Short-term success based on Machiavellian tactics leads to relationship disruption, increased resistance, and long-term inefficiency (Teven, McCroskey, & Richmond, 2006).

## 2. THEORETICAL BACKGROUND

In terms of employee satisfaction, internal motives are related to the satisfaction of employees with the work itself, external motives are satisfied with the consequences of work. We advise the need for action in general, the need for contact with other people, the need for performance and the desire for power, or the need for the meaning of life and self-realization to the most important internal motives. In the case of external motives, we give priority to the need for money, the need for security, which we associate with cash income in the future, or the confirmation of our own importance (Bedrnová & Nový, 2009). Sholihin & Pike (2009) characterizes job satisfaction as a subjective aspect of work activity, such as "a reflection of work and conditions that pass through an individual filter of standards, value orientation and expectations that relate to the activity." At the same time, he points out the problem that job satisfaction can be viewed from two angles and understood as job satisfaction or in a narrower sense in terms of content associated with the performance of specific activities, evaluation or prestige. Job satisfaction is a broader term, it relates to the personality of the employee and the general working conditions in the organization. According to the authors, such a notion of satisfaction prevails. Milkovich (1993) emphasizes that although buildings, machinery, equipment and financial resources are necessary for the organization, in the first place, employees, ie human resources, decide what a successful organization will be. Bat'a (2013) put it very clearly: "Buildings are a pile of bricks and concrete, machines are a pile of iron, people give life to it. These are people who are able and willing to think, create and communicate, who can move this dead capital. "It can be said that the organizational culture, which is shaped by strategic human resource management, is an important factor influencing employee behavior and attitudes towards knowledge sharing in the company (Hayton & Macchitella, 2013), as well as their satisfaction. Employees' satisfaction with their income was examined by Czech and Forward (2013). They pointed out that income had an inverse relationship to employee job satisfaction. The authors further state that while this may seem surprising at first glance, there is little empirical evidence to suggest that income plays a significant role in employee job satisfaction. Despite popular beliefs to the contrary, Judge et al.(2010) noted that research has consistently shown that pay levels are only marginally related to job satisfaction. Money alone cannot compensate for a negative communication climate, awkward leadership or grueling relationships at work. As already mentioned, job satisfaction is closely linked to the quality of relationships in the workplace. Disrupted and unhealthy working relationships are the result of many factors, including manipulation. Manipulative behavior is often referred to as Machiavellianism. The construct of Machiavellian was originally developed by Christie and Geis (1970) based on their studies of political and religious extremist groups, and eventually focused on how the leaders of these groups manipulated their subordinates to fulfill their desires. They identified several topics that are extremely important for effective manipulators, such as the willingness to use manipulative tactics, amoral action, and the promotion of a cynical, distrustful view of human nature.

Machiavellists use other than means to accomplish their own goals (Christie & Geis, 1970; Wilson, Near & Miller, 1996; Grams & Rogers, 1989; McHoskey, Worzel & Szyarto, 1998; Paal & Bereczkei, 2007). Individuals who exhibit a high level of Machiavellian tend to resist social influences, try to control their interpersonal interactions, and show a general lack of influence in their personal relationships (Bedell et al., 2006). Dahling et al. (2009) describe Machiavellianism as a construct based on inner beliefs, values and motivations. Although it involves amoral manipulation, those who are highly Machiavellian are not constantly and actively involved in amoral manipulation. They tend to be very adaptive, and if they realize that this will accelerate their goals and interests, they can engage in pro-organizational behavior in a friendly and cooperative manner. It happens that the manipulation is carried out so cleverly that we do not even notice that something like this is happening around us. The manipulated person mistakenly thinks that he decides on his behavior independently. However, he does not realize that it is only a tool in the hands of the real author to serve important goals for him (Wilson, Near & Miller, 1996). Such manifestations of Machiavellian behavior are also pointed out by Judge et al. (2009). Machiavellianism as such speaks of the means that man chooses to achieve something. The analyzes of Wilson, Near, and Miller (1996) also show that unethical machiavellist tactics in real life rarely lead to success. The fact that the positive correlation between Machiavellianism depends on the context, ie on the specificity of the field to the level of education or the ambiguity of the situation, has also been proven. In unclear situations where people receive asymmetric information, the advantage is highly Machiavellian people who are able to more easily and quickly adopt and apply more adaptable strategies leading to maximizing their own profit. The aim of the paper is to examine job satisfaction and manifestations of manipulation in employees of public and private sector companies, focusing on the context of selected socio-demographic characteristics.

### 3. METHODS

The aim of the research was to identify and specify the differences between the attributes of job satisfaction and the attributes of Machiavellian manifestations and selected socio-demographic characteristics of employees. The mutual differences within the highest achieved education of the respondents and their net monthly income were characterized. Based on the goal, two hypotheses were established:

- **Hypothesis 1:** We assume that there are statistically significant differences in selected attributes of job satisfaction and Machiavellian manifestations between secondary and higher education.
- **Hypothesis 2:** We assume that there are statistically significant differences in selected attributes of job satisfaction and Machiavellian manifestations in terms of net monthly income of employees.

Within the quantitative research, a questionnaire method of collecting empirical data and mathematical-statistical methods for the analysis of these data were used. The established hypotheses were verified through descriptive statistics and statistical analysis in the SPSS statistical program. The survey items of the questionnaire were based on two methodologies. The first methodology focused on job satisfaction of employees, and it was a standardized questionnaire "Life Satisfaction Questionnaire", compiled by Fahrenberg et al. (2001), adapted for the purposes of the topic. Within the above questionnaire, the respondents commented on their job satisfaction in various areas of working life. Due to the employee and his/her work environment, we omitted areas from the questionnaire that did not directly affect the situation in the company. The original questionnaire consisted of ten attributes monitoring individual areas of life satisfaction: satisfaction with health, with work and employment, with the financial situation, satisfaction with leisure time, with one's own person, with marriage and partnership,

with one's relationship with one's own children, with sexuality, satisfaction with friends, acquaintances and relatives and satisfaction with housing. The areas of job satisfaction surveyed by the respondents were as follows: work and employment, financial situation, leisure time, own person, co-workers and colleagues. The revised questionnaire covers the individual picture of overall job satisfaction and differentiates 5 areas. The employee mainly describes the current situation, but some items also include retrospective and perspective management. The Second questionnaire CASADI is a methodology, which was created by Frankovský, Birknerová and Tomková (2017) and it was designed for the purpose of detecting Machiavellian manifestations in business and managerial behavior. Three factors were extracted by factor analysis: calculativeness (CA), self-assertion (SA) and diplomacy (DI). The new CASADI methodology contains statements that relate to the respondent's personal opinion on manipulation between people. The individual items of the questionnaire were inspired by the publication *The Prince* by Niccolò Machiavelli (2007). The questionnaire contains 17 items, to which the respondents answer using the scale "0 - definitely no, 1 - no; 2 – rather no than yes; 3 – rather yes than no; 4 - yes, 5 - definitely yes ". Factor analysis using the Principal Component method with Varimax rotation extracted three factors that confirmed the existence of the presumed factor structure of Machiavellian manifestations in business behavior.

These factors were characterized as:

- 1) Calculativeness – respondents who score higher in this factor are more convinced that people's control must be maintained at all costs. These respondents hold the view that it is necessary to tell others what they want to hear and that it is necessary to gain knowledge so that they can be used to control others. Calculating people are of the opinion that when two competitors compete, it is necessary to recognize whose victory is more beneficial for them, and in any case it is beneficial to base their power on the control of other people. Cronbach's alpha: 0.760.
- 2) Self-Assertion – respondents who score higher in this factor are characterized by the fact that they believe that only such a person is reliable, who relies on himself and on his own strength. A successful person must always keep in mind that he must avoid allies stronger than himself. This factor also adheres to the view that whoever helps another to seize power cuts the branch on which they sit. And then the one who wants to stay in power must consider all the necessary tough measures in advance and take them all at once so that he does not have to return to them later. Cronbach's alpha: 0.521.
- 3) Diplomacy – respondents who score higher in this factor are characterized by the fact that they are constantly collecting information that can later be used for their own benefit. Skillful diplomacy is used to control others, and false and indirect communication is preferred. Respondents surround themselves with capable people and society in general and show them generosity and recognition at the right time. Cronbach's alpha: 0.696.

The research was conducted on a sample of 133 respondents, of which 84 (63%) were women and 49 (37%) men. The respondents were employees of public and private companies. In terms of residence, 50% of respondents were from the city and 50% from the village. In terms of the highest level of education attained, 64 (48%) respondents had a secondary education and 69 (52%) a higher education. Of the total number of respondents, there were 85 (64%) employees whose net monthly income did not exceed 1,200 euros and 48 (36%) employees whose net monthly income exceeded 1,200 euros. The mean age was 39.74 years with a standard deviation of 12,214 years, min. 22 years and max. 88 years.

#### 4. RESULTS

In the first hypothesis, we assumed that there were statistically significant differences in selected attributes of job satisfaction and Machiavellian manifestations between secondary and higher education. The results of the analysis are shown in Table 1.

	Education	Mean	St. Deviation	t	Sig (2-tailed)
<b>Employment</b>	Secondary	4.5601	1.68197	-2.762	<b>.007</b>
	<b>Higher education</b>	5.2340	1.08076		
<b>Financial situation</b>	Secondary	4.0975	1.49298	-2.099	<b>.038</b>
	<b>Higher education</b>	4.5797	1.13545		
Free time	Secondary	4.5578	1.59424	-1.251	.213
	Higher education	4.8716	1.28224		
Own person	Secondary	4.6689	1.59819	-1.701	.091
	Higher education	5.0704	1.08593		
<b>Co-workers</b>	Secondary	4,5079	1,59872	-3,244	<b>,001</b>
	<b>Higher education</b>	5,3101	1,23266		
Calculativeness	Secondary	2.0254	1.09220	.430	.668
	Higher education	1.9362	1.27163		
Self-Assertion	Secondary	2.4802	1.10013	-.271	.787
	Higher education	2.5290	0.97160		
<b>Diplomacy</b>	Secondary	2.8730	1.01090	-2.259	<b>.026</b>
	<b>Higher education</b>	3.2264	0.78071		

*Table 1: Differences in selected attributes of job satisfaction and Machiavellian manifestations in terms of educational attainment  
(Source: own processing)*

We used the mathematical-statistical t-test method to compare the differences in selected attributes of job satisfaction and Machiavellian manifestations between secondary and higher education. Within the differences by education, we record statistical significance in the attributes of job satisfaction: employment, financial situation and co-workers. Higher average values were measured for employees with a university degree. These employees are more satisfied with their position in the workplace and with security in the future, than employees with a secondary education. They are also more satisfied with their work commitment and standard of living. Within the differences according to the achieved education, we record statistical significance in the attribute of Machiavellian manifestations: diplomacy. Higher average values were measured for employees with a university degree. Employees with a university degree tend to use skillful diplomacy and surround themselves with capable people. For the other attributes, we did not observe statistical significance in the context of the distribution by education.

In the second hypothesis, we assumed that there were statistically significant differences in selected attributes of job satisfaction and Machiavellian manifestations in terms of net monthly income. The results of the analysis are shown in Table 2.

	Income	Mean	St. Deviation	t	Sig (2-tailed)
Employment	to 1200 EUR	4.9261	1.32436	.220	.826
	over 1200 EUR	4.8690	1.61888		
<b>Financial situation</b>	to 1200 EUR	4.1513	1.15119	-2.223	<b>.028</b>
	<b>over 1200 EUR</b>	4.6786	1.56284		
Free time	to 1200 EUR	4.6706	1.38751	-.580	.563
	over 1200 EUR	4.8214	1.53254		
Own person	to 1200 EUR	4.8622	1.20059	-.281	.779
	over 1200 EUR	4.9315	1.62348		
Co-workers	to 1200 EUR	4.9153	1.31017	-.068	.946
	over 1200 EUR	4.9333	1.72162		
Calculativeness	to 1200 EUR	2.0282	1.11233	.716	.475
	over 1200 EUR	1.8750	1.30572		
Self-Assertion	to 1200 EUR	2.5029	0.99962	.127	.899
	over 1200 EUR	2.4792	1.10708		
Diplomacy	to 1200 EUR	2.9926	0.85115	-.995	.322
	over 1200 EUR	3.1563	1.00943		

*Table 2: Differences in selected attributes of job satisfaction and Machiavellian manifestations in terms of net monthly income  
(Source: own processing)*

We used the mathematical-statistical t-test method to compare the differences in selected attributes of job satisfaction and Machiavellian manifestations within the comparison of net monthly income of employees. Within the differences according to income, we record statistical significance in the attribute of job satisfaction: financial situation. Higher average values were measured for employees with a net monthly income of over 1,200 euros. These employees are more satisfied with their income than employees with a net monthly income of up to 1,200 euros. They are also more satisfied with their standard of living and the material security of their existence. For the other attributes, we did not record statistical significance in the context of the breakdown by net monthly income. The hypotheses can be considered confirmed because we have confirmed the assumption that there are statistically significant differences in selected attributes of job satisfaction and Machiavellian manifestations within the highest level of education and at the same time there are statistically significant differences in selected attributes of job satisfaction and Machiavellian manifestations in terms of net monthly income.

## 5. CONCLUSION

In the context of the topic of job satisfaction and Machiavellian manifestations, we examined the existence of statistically significant differences in selected attributes of the issues we examined among employees who have completed the highest secondary and tertiary education. Higher average values in terms of job satisfaction were measured for employees with a university degree in the attributes employment, financial situation and co-workers.

Higher average values were measured for employees with a university degree within the framework of Machiavellian manifestations in the diplomacy attribute. We found that employees with the highest level of university education are more satisfied with their position in the workplace and with security in the future, than employees with a secondary education. The authors Frankovský, Zbihlejová, and Birknerová (2015) are of the opinion that employees with a university degree are more able to adapt to changing conditions. According to the authors, these employees prefer the claim that a person should be surrounded by capable people. Wróbel (2008) states that an educated person differs from a manipulator in that he/she will never show that he/she is second, uneducated or less intelligent. The manipulator relies on the ignorance of others and applies elements that increase his authority, whether it is an education, a socially recognized profession, age or experience. He is able to control people and force them to accept what he wants. By examining statistically significant differences in selected attributes of job satisfaction in terms of net monthly income, we recorded a statistically significant difference in the attribute financial situation. Higher average values were measured for employees with a monthly income of over 1,200 euros. These employees are more satisfied with their standard of living and material security. By examining statistically significant differences in selected attributes of Machiavellian manifestations, we did not record statistical significance in the context of the distribution according to net monthly income. In a similar study, income was identified as one of the most influential factors in job satisfaction (Maniram, 2009). In Grob's (1995) study, financial problems reduced people's subjective well-being. People with financial problems had a more negative approach to life and experienced more problems compared to people without financial difficulties. Salary is still a significant motivating factor at work. If employees' salaries are not reassessed regularly, they show dissatisfaction and a greater intention to leave the organization (Paylab, 2018). Toman (2010) points to a survey where respondents were asked what they expected from their job. Respondents in the first place most often mentioned the possibilities of career and educational development, in the second place the award and in the fourth place better relations with the superior. This research confirms that employees need more than a salary to be motivated. On the contrary, many studies have shown that it is the increase in remuneration and recognition in the organization that can lead to higher employee loyalty and satisfaction and thus increase overall productivity (Gostick & Chester, 2010). From the point of view of examining the connection between Machiavellian tendencies and individual income, we proceed from the claims of Christie and Geis (1970), who point out that individuals with high love for money have high Machiavellianism and are likely to use aggressive and devious methods to achieve goals regardless of feelings, rights and the needs of other people. Individuals with a great love for money are likely to have many stupid and harmful desires, are prone to act and make money (Tang et al. 2000), fall into temptation (Ariely, 2008) and have high unethical intentions (Tang & Chiu 2003). Monetary experience and the economic environment at the individual, organizational, and entity levels shape our deep-rooted monetary values, beliefs, or attitudes (Lim & Sng, 2006). The results of our research show that attitudes towards money play a decisive role in terms of unethical behavior. The cross-sectional design of this research can be considered. The data were obtained by a single measurement and it is therefore not possible to examine the causal relationships between the variables. We are aware that job satisfaction and Machiavellian manifestations are not an isolated and one-off affair. It is a continuous process that is influenced by the long journey and the social context in which employees carry out their work. This is also related to various situational factors that may have influenced and distorted the respondents' statements (fatigue, low motivation to complete the questionnaire, unfavorable working conditions, the presence of other colleagues). Another limit is the size of the sample and the non-random occasional selection of respondents. Respondents were not addressed directly, but through social networks.

This results in the fact that the questionnaire was filled in only by active users of social networks and people willing to participate in the research. Therefore, we cannot generalize the research results to the entire population of employed people in Slovakia. We also include the use of self-assessment tools among the limits, which often lead to various measurement errors, which in turn compromises the validity of the results. We tried to eliminate this limit through an introductory instruction in which we encouraged respondents to answer honestly and also reassured them of the anonymity of their answers.

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## LITERATURE:

1. Ariely, D. (2008). How honest people cheat. *Harvard Business Review*, 86(2), 24.
2. Baťa, T. (2013). *Úvahy a projevy*. Praha. Dobrovský, s.r.o. 328 s. ISBN 978-80-7390-019-9.
3. Bedell, K., Hunter, S., Angie, A., & Vert, A. (2006). A historiometric examination of Machiavellianism and a new taxonomy of leadership. *Journal of Leadership & organizational studies*, 12(4), 50-72.
4. Bedrnová, E., & Nový, I. (2009). *Psychologie a sociologie řízení*. Bratislava: Management Press. 800 s. ISBN 978-80-7261-169-0.
5. Christie, R., & Geist, F. L. (1970). *Studies in Machiavellianism*. New York: Academic Press.
6. Czech, K., & Forward, G. L. (2010). Leader communication: Faculty perceptions of the department chair. *Communication Quarterly*, 58(4), 431-457.
7. Dahling, J. J., Whitaker, B. G., & Levy, P. E. (2009). The development and validation of a new Machiavellianism scale. *Journal of management*, 35(2), 219-257.
8. Fahrenberg, J., Myrtek, M., Schumacher, J., & Brähler, E. (2001). *DŽS – Dotazník životní spokojenosti*. Praha: Testcentrum.
9. Frankovský, M., Birknerová, Z., & Tomková, A. (2017). *Dotazník zisťovania machiavellistických prejavov v obchodnom správaní - VYSEDI (príručka)*. Prešov: Bookman.
10. Grams, W. C., & Rogers, R. W. (1989). Power and Personality: Effects of Machiavellianism, Need for Approval, and Motivation on Use of Influence Tactics. *Journal of General Psychology*, 117, 1, 71-82.
11. Frankovsky, M., Zbihlejova, L., & Birknerova, Z. (2015). Links between the social intelligence attributes and forms of coping with demanding situations in managerial practice. *Psychology and psychiatry, sociology and healthcare: psychology and psychiatry, sociology and healthcare, education*. Vol. I: Conference proceedings: international multidisciplinary scientific conferences on social sciences and arts SGEM 2015. Sofia: STEF92 Technology. s. 109-115. ISBN 978-619-7105-44-5.
12. Grob, A. (1995). Subjective well-being and significant life-events across the life span. *Swiss Journal of Psychology*, 54, 3-18.
13. Gostick, A., & Chester, E. (2010). *The carrot principle*. Bratislava: Eastone Books. ISBN 978-80-8109-125-4
14. Hayton, J., & Macchitella, U. (2013). *HRM, organizational culture and entrepreneurial capabilities: The role of individual and collective knowledge processes*, ERC Research Paper No.5, Enterprise Research Centre, UK.
15. Judge, T. A., Piccolo, R. F., & Kosalka, T. (2009). The bright and dark sides of leader traits: A review and theoretical extension of the leader trait paradigm. *The leadership quarterly*, 20(6), 855-875.

15. Kassing, J. W. (2008). Consider this: A comparison of factors contributing to employees' expressions of dissent. *Communication Quarterly*, 56(3), 342-355. <http://dx.doi.org/10.1080/01463370802240825>
16. Lee, J., & Jablin, F. (1995). Maintenance communication in supervisor-subordinate work relationships. *Human Communication Research*, 22(2), 220-257.
17. Lim, V. K. G., & Sng, Q. S. (2006). Does parental job insecurity matter? Money anxiety, money motives, and work motivation. *Journal of Applied Psychology*, 91, 1078–1087.
18. Machiavelli, N. (2007). *Vladař*. Praha: Nakladatelství XYZ s.r.o. 204 s. ISBN 978-80-87021-73-6.
19. Maniram, R. (2009). An investigation into the Factors Affecting Job Satisfaction at the KwaZulu Natal Further Education and Training College-Swinton Campus. PhD Thesis
20. McHoskey, J. W., Worzel, W., & Szyarto, CH. (1998). Machiavellianism and Psychopathy. *Journal of Personality and Social Psychology*, 74(1), 192-210.
21. Milkovich, G. T. (1993). *Řízení lidských zdrojů*. Praha: Grada.
22. Paal, T., & Bereczkei, T. (2007). Adult theory of mind, cooperation, Machiavellianism: The effect of mindreading on social relations. *Personality and Individual Differences*, 43(3), 541-551.
23. paylab.com: Paylab, (2018). Platová analýza – Aký plat udrží Vášho zamestnanca? Retrieved May 19, 2018, from <https://www.platy.sk/analyzy/platova-analyza-aky-plat-udrzi-vashozamestnanca/50279>
24. Sholihin, M., & Pike, R. (2009). Fairness in performance evaluation and its behavioural consequences. *Accounting and Business Research*, 39(4), 397-413.
25. Tang, T. L. P., & Chiu, R. K. (2003). Income, money ethic, pay satisfaction, commitment, and unethical behavior: Is the love of money the root of evil for Hong Kong employees? *Journal of Business Ethics*, 46, 13–30
26. Teven, J., McCroskey, J., & Richmond, V. (2006). Communication correlates of perceived Machiavellianism of supervisors: Communication orientations and outcomes. *Communication Quarterly*, 54, 127-142. <http://dx.doi.org/10.1080/01463370600650829>
27. Toman, I. (2010). *Motivace zvenčí je jako smrad...za pár hodin se vyvětrá*. Bratislava: Taxus International. 192 s. ISBN 858611220306.
28. Wilson, D. S., Near, D., & Miller, R. R. (1996). Machiavellianism: a synthesis of the evolutionary and psychological literatures. *Psychological Bulletin*, 119(2), 285-99.
29. Wróbel, A. (2008). *Výchova a manipulace: podstata manipulace, mechanismy a proces, vynucování a násilí, propaganda*. Praha: Grada Publishing.



# ORGANIC PRODUCTION AND FOOD MARKET IN ROMANIA - CHARACTERISTICS AND TRENDS

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## **ABSTRACT**

*The paper proposes an analysis of the main characteristics specific to organic agri-food production in Romania. The official information provided by the Ministry of Agriculture and Rural Development in Romania, national and European statistical databases was used for documentation. Specialized papers from the Clarivate Analytics, SCOPUS, Google Scholar databases were used for bibliographic documentation. The data collected were statistically processed and interpreted. The main characteristics of organic plant and animal production were analysed, namely the evolution of cultivated areas and the number of certified operators for organic production. Although there are support measures from the Romanian authorities, mainly due to European policies in the field of organic production and increasing demand on the European market, the national market for organic products has many stages to go until it reaches a level of competitiveness comparable to most European countries.*

**Keywords:** *organic, food market, Romania*

## **1. INTRODUCTION**

Organic production is an opportunity for some agricultural producers, facing competition from conventional production, a potential source of higher income, especially given the constraint of available natural resources. The agricultural areas where the industrialization of production is not widespread, for various reasons, mainly of an economic nature, tradition or the limitation of areas available for large crops, or where there are no industrial pollutants, have the potential to introduce organic production or convert to it (Munteanu Pila and Stanciu, 2019). At the same time, organic foods are considered a healthier way of life for the consumer, although perhaps more expensive compared to conventional food. Large chain stores, along with stores specializing in trade in organic products, are giving increasing importance to growing consumer demand.

## **2. MATERIALS AND METHODS**

Scientific articles were used for bibliographic documentation, the vast majority *open access* type, available on the Web of Science - Clarivate Analytics, SCOPUS, Google Scholar or ResearchGate, as well as the author's own contributions on this topic. The legislative regulations on organic production were selected from the Romanian legislation, published on the website of the Ministry of Agriculture and Rural Development (MADR), respectively the European ones, published by the European Commission (EC). The data needed for the research were collected mainly from national statistics, available on the National Institute of Statistics (NIS) website, respectively at MADR, supplemented with Eurostat data. The available information has been selected, statistically processed and interpreted. The results obtained were compared with data from the literature, for validation.

## **3. SHORT LITERATURE REVIEW**

In Romania, the term ecological (food / agriculture) is usually used to define this system of agri-food production, similar to the terms "organic" or "biologic" used in other European countries or internationally.

Depending on the area of influence, or the language used, in the Anglo-Saxon area the term organic is used, while in the area of French biological influence (Stanciu et al, 2019). The main mission of the agricultural system of organic production is to obtain cleaner foods, better adapted to human metabolism, in correlation with the criteria of sustainability and sustainability, with positive effects on the preservation and development of the natural environment. One of the main objectives of organic farming is to make fresh and authentic agri-food products that respect natural and environmental factors. The use of genetically modified organisms (GMOs), synthetic fertilizers and pesticides, growth stimulants or hormones, antibiotics or other unauthorized treatments is prohibited during on-farm production. The use of synthetic food additives is not permitted in food processing, of synthetic chemical ingredients or technological processes prohibited by organic processing regulations. Organic farming can have an important contribution to the sustainable development of the agricultural sector, to the development of value-added economic activities and to the increase of interest for the development of the rural area. The objectives, principles and rules applicable to organic production are laid down in specific Community and national legislation. Organic production methods in the plant, animal and aquaculture sectors are thus defined and regulated, as well as issues related to the organic food processing system (technology), trade (marking and labelling conditions, sale), import, inspection and certification. The provisions on the labelling of products obtained from organic farming are laid down in Regulation (EC) No. Council Regulation (EC) No 834/2007 on organic production and labeling of organic products and in Regulation (EC) no. Commission Regulation (EC) No 889/2008 laying down detailed rules for the application of Regulation (EC) No 834/2007. European standards are precise and concern safe, environmentally sound products, obtained and certified in accordance with strict rules of production, processing, inspection and certification, provided to European consumers on the Community market (EC, 2022). At the international level, organic production is regulated by the IFOAM Standards, the world association with responsibilities in the field (IFOAM, 2022). There is a harmonization of national standards with European norms, which are in turn correlated with international standards. In order to obtain and market organic products bearing specific labels and logos, manufacturers must go through a strict process, in compliance with the rules of traceability of the product on the food chain. Before they can be declared and marketed as organic products, the farm (formerly conventional) must have a conversion period of at least two years (Stanciu et al, 2014). The activity of organic agri-food production must meet specific criteria, and face inspection visits, carried out by inspection and certification bodies, in order to control compliance with the provisions of the legislation in force on organic production criteria (MADR, 2022aa). For the promotion of organic food, the EC subsidizes up to 50% of the information and promotion programs proposed by professional and inter-professional organizations in the sector, which participate with at least 20% of the real cost of actions, co-financed by the state budget, according to the provisions of Regulation (EC) no. Council Regulation (EC) No 3/2008 on information provision and promotion measures for agricultural products on the internal market and in third countries and Regulation (EC) No. Commission Regulation (EC) No 501/2008 laying down detailed rules for the application of Regulation (EC) No 3/2008 (MADR, 2022a; CE, 2022). The relatively low level of pollution in Romanian agriculture continues to provide good opportunities for conversion to ecological practices. In Romania, the first organic crops were obtained in 1992, at the vegetable resort Bacău, where the first conventional ecological comparative crops were established. In collaboration with Swiss specialists, the first processed organic products were obtained in 1997 in Sibiu, in a sheep's milk processing factory (North-West Development Region, 2015).

## 4. RESULTS

### 4.1. Certified areas and producers for organic production in Romania

The evolution of agricultural areas and economic operators certified for organic production in Romania is shown in Figure 1. According to the data presented, it can be seen that there is a growing trend of certified agricultural areas for organic production in the analysed period, with an overall variation of + 156%. Although overall the period 2010-2020 shows a tripling of the number of recognized producers, in recent years there has been a sharp reduction in the number of certified operators, amid the concentration of organic agricultural production in certain companies. Specialists in the field of organic farming say that the reason for the decrease in the number of operators by 2020 is mainly the high costs for certification, which small producers cannot afford, and on the other hand say that there is a trend for certified organic producers to increase the surfaces, in order to consolidate the market (Nițu, 2021). Although the area worked in ecological system has increased, reaching about 470,000 hectares in 2020, only 3% of the total agricultural area of Romania is cultivated in this manner. The strategy proposed by the European Commission for the development of organic production, aims at a rate of 25% of the total agricultural land by 2030, our country being far from the objectives set at European level.

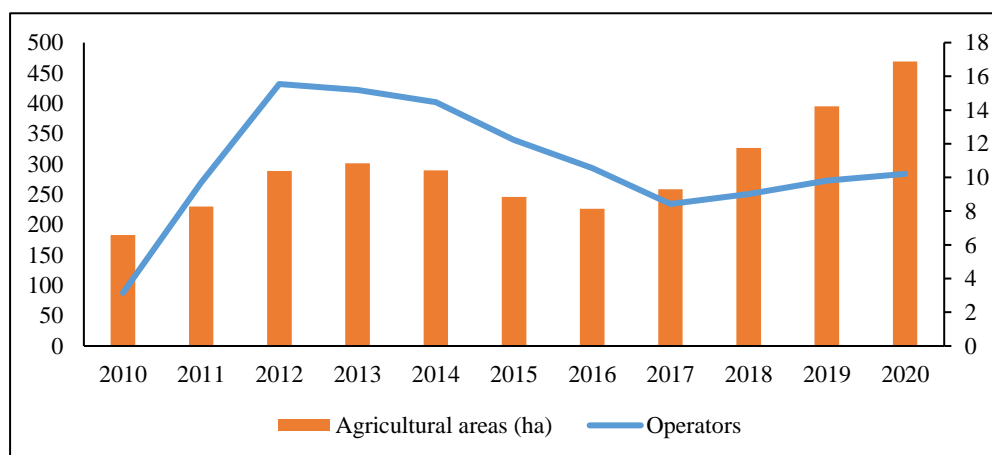


Figure 1: Agricultural areas and certified economic operators for organic production in Romania

(Source: Author, by using MADR (2022))

The organically cultivated area in Romania is among the smallest in Europe, as a share of the total, being almost three times lower than the European average according to Eurostat statistics. Thus, the total organically cultivated agricultural area at European level has continuously increased, reaching 14.7 million hectares, representing about 9.1% of the total European agricultural areas (Eurostat, 2022). In 2020, Sweden had the largest share of agricultural land allocated to organic production (7.1% for organic cereals and 17.8% for fresh vegetables), while Greece had the highest share of organic cattle (30.3%). Romania, with about 3% of the agricultural area destined for organic production, occupies a position at the bottom of the European ranking, behind the Netherlands and Poland, surpassing only Bulgaria, Ireland and Malta.

### 4.2. Certification and control of organic production

The certification of organic agricultural products / food is carried out in accordance with Regulation (EU) no. 848/2018, the implementing regulations and the national legislation, in force. The control and certification of products as ecological is ensured in Romania by private inspection and certification bodies.

The list of entities approved by the ministry, with attributions in these directions, based on the criteria of independence, impartiality and competence established in Order no. 895/2016 for the approval of the Rules on the organization of the inspection and certification system, the approval of the inspection and certification bodies and the supervision of the activity of the control bodies is presented on the MADR website (2022, b). The approval of inspection and certification bodies by MADR must be preceded by their accreditation by RENAR, the national body authorized for this purpose, in accordance with the requirements of European Standard EN ISO / IEC 17065: 2012 "Requirements for bodies certifying products, processes and services" or other equivalent accreditation bodies in the European Union signatory to the EA-MLA multilateral accreditation agreement. In Romania, 15 private control bodies are currently recognized, the vast majority subsidiaries of some international companies. The state technical inspection of organic farming is conducted at central level (with additional audits, controls and verifications or the analysis of EC notifications), respectively territorial, through the county agencies, which perform controls of supervision of the activity of private control bodies, local verifications and analyses of the operators, ascertain contraventions and apply sanctions, draw up monthly reports addressed to the central authority (MADR, 2022b).

#### 4.3. The structure of organic vegetable production in Romania

The agricultural areas allocated to the main vegetable crops in organic farming in Romania are presented in Figure 2. According to the data presented, as allocated areas predominate cereals, pastures and industrial crops, smaller agricultural areas being allocated to tuber and root crops. The evolution of agricultural areas allocated to organic vineyards and orchards has been influenced by subsidies granted at national level.

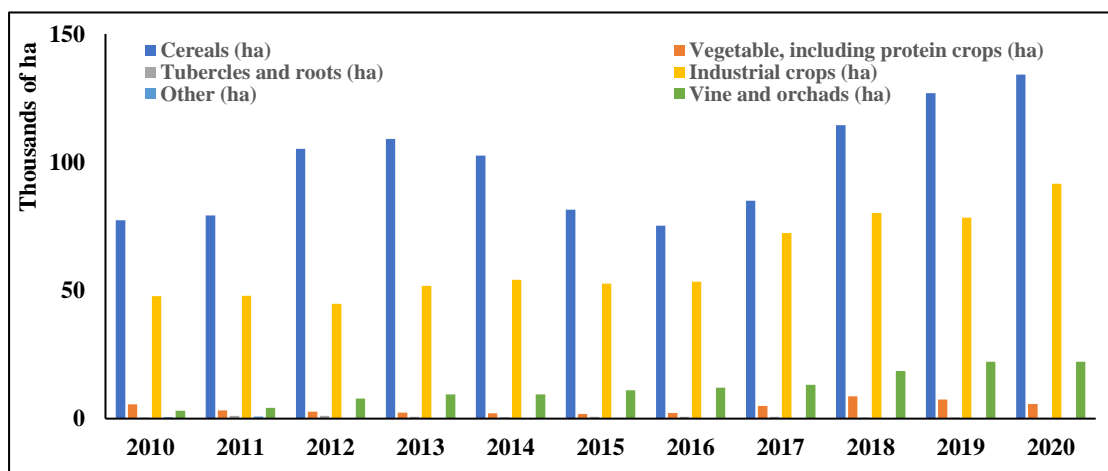


Figure 2: The structure of organic production in Romania, by crops  
(Source: Author, by using MADR (2022))

As a share, the most widespread organic crops in Romania are cereals, in proportion of 33% of the total certified crops, followed by pastures and hayfields (permanent crops) with 31% and industrial crops with about 21%. Of the organically certified cereals, wheat has the largest share, with a steady increase in recent years, followed by corn, which has grown by more than 200% in recent times. Among the organic industrial crops in Romania, the most important are sunflower crops (about 45%), followed by soybeans (about 27%) and rapeseed (21%). (Northwest Development Region, 2015). In order to obtain organic crops, you need organic seeds or seedlings, which can be purchased or produced in your own crop. In Romania, seeds and propagating material used in organic farming are obtained by organic production methods since 2004.

Seeds should only be treated for sowing with products allowed for organic production and must come from a producer who has practiced the organic techniques production. The seeds or propagating material must meet the standards in terms of physiological, physical and health characteristics. The propagating material must not come from organisms genetically modified or any products derived from such organisms. The list of producers of organic seeds and propagating material is presented on the MADR website (2022c).

#### 4.4. The structure of ecologically certified animal production in Romania

In Romania, ecologically certified animal production is at the beginning. In 2015, the certified organic herd was 228,187 heads, of which almost half are organic birds (107,639 heads), 37.5% sheep (85,419 heads), 29,313 cattle and 5,816 goats. The situation in 2020 has not changed substantially, with only a few increases in poultry cattle. The evolution of the organic beekeeping sector in Romania has seen an upward trend in recent years, with an increasing number of certified organic beekeepers, due to the growing demand for organic bee products on the European Union market, as a result of increasing consumer confidence in ecologically certified products.

Livestock	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Cattle (total)</b>	5358	6894	7044	20113	33782	29313	20093	19939	16890	19358	19870
<b>Swine (total)</b>	320	414	344	258	126	86	20	20	9	9	9
<b>Sheep (total)</b>	18883	27389	51722	72193	114843	85419	66401	55483	32579	19397	13189
<b>Goats (total)</b>	1093	801	1212	3032	6440	5819	2618	1653	1360	8161	830
<b>Poultry (total)</b>	21580	46506	60121	74220	57797	107639	63254	78681	83859	128596	171391
<b>Ecvide</b>	284	282	142	200	626	485	0	202	0	297	506
<b>Bee families</b>	68836	77994	85225	81722	81583	0	86195	108632	138557	175959	170789

*Table 1: Ecologically certified livestock in Romania  
(Source: Author, by using MADR (2022d))*

Regarding the consumption of honey on the national market, although there has been an increase in recent years, Romania is among the countries with the lowest consumption in Europe. About 80% of the production of certified organic honey is delivered to the largest consumer markets in the European Union, respectively in: Germany, France, Italy, Austria, but also to third countries such as Japan, Canada and China. The main bee products certified ecologically in Romania are: acacia honey, lime honey, polyfloral honey, manna honey, black grass and other hive products: pollen, pasture, propolis, royal jelly (Northwest Development Region, 2015).

#### 4.5. The market of ecological products in Romania

The national organic food market is only in an early stage of development, with data on its actual size being relatively small. Although the consumption of organic products is slightly increasing, it represents a small percentage of the total consumption of agri-food products consumed by the population. Sales of organic products in 2011 reached about 1% of the entire retail market in Romania. In the same year, exports totalled EUR 200 million (twice as much as the previous year), while the domestic market reached EUR 80 million, with a steady annual growth rate of 20%.

Romania is still a net exporter of raw organic goods. Because the processing sector is underdeveloped (in fact, the entire supply chain of organic products is still unconsolidated), many of the certified products are sold as conventional products. The main certified organic agricultural products exported from Romania are cereals (especially wheat, corn, barley), industrial plants (sunflower, rapeseed, soybeans), spontaneous flora (medicinal plants, berries), but also organic oils, walnut kernels and honey. Italy is the country where almost half of the quantity of wheat, corn, soybeans, sunflower and walnut kernels is exported, as well as all the exported production of rye; in Germany, almost 2/3 of the exports of organic barley, rape and honey and almost the entire exported crop of medicinal plants leave; Austria is among the importing countries, as is Bulgaria for the harvest of berries. According to the Financial Intelligence study (2020), sales of organic food products in Romania reached 65 million USD in 2020, but over 80% of the products sold come from imports. At European level, with an annual consumption of organic food estimated at 3.72 euro / inhabitant, Romania occupies an insignificant position on the European market. The Nordic countries are at the top of the list, with a consumption of organic food / person exceeding 277 euros in Denmark, 274 euros in Switzerland and 194 euros in Sweden, and Germany has the largest organic food market in Europe, with sales of about 9.5 billion euros / year (Financial Intelligence, 2020). The cited study shows that price and availability are important for those interested in organic products. 55% of respondents said that their interest in organic fruits and vegetables will not be affected by the price, while 35% said they are willing to pay more for organic products, especially for the percentage of organic vegetables and fruits. Another study of a global retail network present in Romania shows that 8% of those interviewed are interested in buying organic products. Modern retail is the main channel through which sales of organic products are developing; the national networks of these retail players are the engine of sales growth to consumers and give them the availability of organic products. Foreign companies present in modern domestic retail promote organic products (Financial Intelligence, 2020).

## 5. CONCLUSION

Organic farming, as a variant of multifunctional agriculture, involves technologies that incorporate more labour that attracts part of the surplus rural labour force in agriculture. Organic farming is mainly the system of agriculture that ensures the production of quality products, controlled and certified, in harmony with the nature and health of consumers. Organic farming is a great opportunity for Romanian exports, with support measures from officials, designed to improve the competitiveness of the agricultural, forestry and food sectors, sustainable use of agricultural land and environmental protection, through training, information and dissemination of innovative knowledge to people adults working in organic farming. Although organic farming is a new domestic market and presents a higher degree of risk for farmers who choose to use organic production methods, there is interest from them, young people and relocating to Romania from abroad.

## LITERATURE:

1. European Commission (EC), (2022), Legislation for the organics sector, Retrieved 01.05.2022 from [https://ec.europa.eu/info/food-farming-fisheries/farming/organic-farming/legislation\\_en](https://ec.europa.eu/info/food-farming-fisheries/farming/organic-farming/legislation_en).
2. IFOAM - Organics International, (2022), IFOAM Family of Standards, Retrieved 01.05.2022 from <https://www.ifoam.bio/our-work/how/standards-certification/organic-guarantee-system/ifoam-family-standards>.
3. Financial Intelligence, (2020), Analiză – Vânzările de produse alimentare ecologice au atins 65 milioane USD, Retrieved 01.05.2022 from <https://financialintelligence.ro/analiza-vanzarile-de-produse-alimentare-ecologice-au-atins-65-milioane-usd>.

4. Ministerul Agriculturii și Dezvoltării Rurale MADR, (2022a), Organic farming, Retrieved 01.01.2022 from <https://www.madr.ro/agricultura-ecologica.html>.
5. Ministerul Agriculturii și Dezvoltării Rurale MADR, (2022b), Organisme de control aprobate, Retrieved 28.04.2022 from <https://www.madr.ro/agricultura-ecologica/organi-sme-de-control-aprobate.html>.
6. Ministerul Agriculturii și Dezvoltării Rurale MADR, (2022c), Baza de date semințe ecologice, Retrieved 28.04.2022 from <https://www.madr.ro/agricultura-ecologica/baza-de-date-semințe-ecologice.html>.
7. Ministerul Agriculturii și Dezvoltării Rurale MADR, (2022d), Evoluția efectivelor de animale certificate ecologic 2010 – 2020, Retrieved 28.04.2022 from <https://www.madr.ro/agricultura-ecologica/dinamica-operatorilor-si-a-suprafetelor-in-agricultura-ecologica.html>.
8. Munteanu (Pila), M., Stanciu, S., 2019, Comparative Aspects of Food Security in the Republic of Moldova and Romania, Proceedings of the 33rd International Business Information Management Association Conference: Education Excellence and Innovation Management through Vision 2020 (Granada, Spain, April 10-11, 2019), Vol. I-X, pp. 169-180, Ed. Soliman, K.S., Retrieved 28.04.2022 from <https://www.webofscience.com/wos/woscc/full-record/WOS:000503988800017>.
9. Nitu, F., (2021), Doar 3% din suprafața agricolă a României este cultivată în sistem ecologic. Cum creștem sub eticheta „bio”? Comisia Europeană țintește o proporție de 25% până în 2030,
10. Retrieved 01.05.2022 from <https://www.zf.ro/supliment-zf-green-economy/doar-3-din-suprafata-agricola-a-romaniei-este-cultivata-in-sistem-20042662>.
11. Stanciu, S., (2008), Piața produselor agroalimentare ecologice, în „Alimente ecologice”, Ed. Costin., G.M., Academica Publishing House, Galați, Romania.
12. Regiunea de dezvoltare Nord-Vest, (2015), Diagnoza regională. Analiza lanțului de valoare- de la agricultură ecologică la afaceri care valorifică materiile prime ecologice, Retrieved 28.04.2022 from <https://www.nord-vest.ro/wp-content/uploads/2016/06/6.SME-Organics-DIAGNOZA-Cadrul-NATIONAL-august2017.pdf>.
13. Stanciu, S., (2014), Organic products – a necessity or an opportunity for Romanian agriculture?, Proceedings of the Third International Conference: Competitiveness of Agro-food and Environmental Economy (CAFEE'14), Bucharest, 6-7 Nov. 2014, Editors Popescu, G., Istudor, N., Boboc, D., Andrei, J., Editura. ASE, Bucuresti, pp. 300-311, Retrieved 28.04.2022 from [http://www.cafee.ase.ro/wp-content/uploads/2014edition/file2014\(34\).pdf](http://www.cafee.ase.ro/wp-content/uploads/2014edition/file2014(34).pdf).
14. Stanciu, S., Sârbu, R., Bichescu, C.I., Zungun, D., (2019), Organic Production in Romania. Perspectives in European Context, Proceedings of 2019 BASIQ International Conference: New Trends in Sustainable Business and Consumption (Bari, Italy, May 30-Jun. 01, 2019), Ed. ASE, București, ISSN: 2457-483X, Ed. Dinu, C., pp. 813-820, Retrieved 01.01.2022 from <https://www.webofscience.com/wos/woscc/full-record/WOS:000478861800104>.
15. Eurostat, (2022), File:Organic area 2020.png., Retrieved 04.05.2022 from
16. [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=File:Organic\\_area\\_2020.png](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=File:Organic_area_2020.png).

## CONFLICT RESOLUTION AND NEGOTIATION FROM A GENDER PERSPECTIVE IN HIGHER EDUCATION

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### ABSTRACT

*This study aims to develop a pilot scale for future projects on negotiation skills and conflict resolution appropriated for use in the academic context, namely with undergraduate students. The thematic approach of the research seeks to understand whether people's emotions undergo, when faced with contrary situations, considering effective decision-making and the implementation of successful tactics in the negotiation process and conflict resolution, particularly between male and female students. It is justified by the importance of negotiators' emotional intelligence to carry out negotiations effectively, also focused on gender. To achieve the objective, we collected data using the Effective Conflict Resolution and Negotiation Skills Scale. The scale, of Turkish origin, has forty items with seven sub-dimensions, namely: negotiator's style, rationality and common sense, sensitivity for opponents, goal orientation, planning, effective communication and expressing oneself decidedly. The population of this pilot-scale was 235 students (97 men and 135 women) of bachelors of a Portuguese Private Higher Education Institution. The results showed that men are more associated with the sub-dimensions "rationality and common sense" and "expressing oneself decidedly" and women tend to be more associated with the sub-dimension "sensitivity for opponents". The originality of this study is reflected in the application of this scale to a population of higher education students, based on the differences that may be at the origin of the gender variable. This study is relevant, in both theoretical and practical terms, as it allows a reflection on conflict management strategies, based on competences, properly directed, according to the characteristics of those involved, namely gender.*

**Keywords:** *conflict resolution, gender, negotiation, skills*

### 1. INTRODUCTION

This study aims to develop a pilot scale for future projects on negotiation skills and conflict resolution appropriate for use in the academic context, particularly with undergraduate students. This theme has received attention from many authors (Dildar and Amjad, 2017, Hernandez-Arenaz and Iriberry, 2019, Mamatoğlu and Keskin, 2019) in their researches, namely because it deals with an important subject and there is no consensus in the sense of understanding how negotiation and resolution processes of conflicts are conducted, in addition to the competencies that stand out as decisive in these processes, also including gender issues.



In this research, the rationale addresses the issue of gender considering the space that was previously occupied with greater proportion by men, and which, gradually, is being occupied by women. Despite growing equity, worrying influences that can potentiate gender stereotypes are still identified (Cabrera, 2019; Card and Payne, 2021; Cimpian, Kime, and McDermott, 2020), such as in the scope of the course and profession choices, in which some are perceived as more suitable courses for men and others for women. This research also integrates the conflict and negotiation literature that encompasses studies that considered biographical variables such as age, gender, ethnicity, culture, and socioeconomic status among effective negotiators (Brett and Thompson, 2016). In addition to these variables, the relationship between personality factors (Butler, 1994) was researched, as well as the alternative approach, which assumes that individuals understand and practice the behaviours and attitudes of successful negotiators and will become better negotiators over time. Gender made a “comeback” in negotiations when research demonstrated that women are reluctant to advocacy for themselves in negotiations because of backlash (Brett and Thompson, 2016). This approach defines negotiation and conflict resolution as upgradeable and developmental skills with appropriate experiences over time, rather than innate skills (Kray and Haselhuhn, 2007). Furthermore, Behavioral Decision Theory defines conflict resolution and negotiation as a common decision-making process by one or several parties (Brett et al., 1999; Carroll et al., 1988). In this context as far as university students are concerned, studies are even more limited (Pegalajar, 2018). Regarding the issue of gender, behavioural styles, and conflict resolution among university students, differences were found, which may be due to the processes of differential socialization according to traditional gender roles and stereotypes (Ahemd and Aijaz, 2021; Garaigordobil, Machimbarrena and Maganto, 2016; Luna and De Gante, 2017). This concern is also part of the European Union's agenda with regard to horizontal segregation (disparity in the choice of courses) and vertical segregation (glass ceiling), which, although showing an increase in women, still portrays the predominance of men in the top positions of the career (EIGE, 2017; European Commission, 2015). The studies reviewed in this research revealed an important insight regarding the measurement of conflict resolution and negotiation skills, highlighting individual differences between negotiators and their importance in understanding people's emotions that can be changed when faced with contrary situations, considering effective decision-making and the implementation of successful tactics in the process of negotiation and conflict resolution. Thus, the objective of this research is to measure, in the context of a Portuguese Private Higher Education Institution, specifically the resolution of conflicts and negotiation, particularly between students, through the Scale of Skills for Effective Conflict Resolution and Negotiation (Mamatoğlu and Keskin, 2019), which assesses behavioural, emotional, and cognitive conflict resolution and negotiation attitudes.

## **2. THEORETICAL FRAMEWORK**

### **2.1. Gender and its representation in Portuguese higher education**

The meaning of gender, from a cultural perspective, underpinned the construction of differentiation between men and women, going beyond the biological classification, during historical evolution (Scott, 1995). From this perspective, in historical terms, the natural female vocation focused on domestic tasks, inherent to the care of the home and family (Mourão and Galinkin, 2008). Gradually, with the action of feminist movements, women conquered spaces traditionally occupied by men, particularly at the professional level. However, and paradoxically, the recognition of their skills and the corresponding salary increase have been slow to arrive, due to stereotypes that continue to persist (Bertolini, 2002). The construction of this new identity of the woman faced the so-called gender socialisation, originating in the family, depending on the sex of the child. This feminine ideal was then reinforced in formal education, remaining throughout the whole life path (Vieira, 2006).

Effectively, the school, as an agent of a secondary socialization, also contributed to the reproduction of gender inequalities. According to Bourdieu and Passeron (1970), the school is not a neutral institution, neither does it disseminate rational knowledge. On the contrary, it reproduces social gender roles, favouring male-dominated relations, having as agents teachers and employees (Bourdieu, 1999). These values and beliefs will thus be assimilated by the new generations, in a circle that has been maintained over time. In this way, "the teaching staff is part of the problem and of the solution, and often participates, though unconsciously, through gestures, words or behaviours that reinforce the sexual conditioning initiated in the family" (Descarries and Mathieu, 2010, p. 53). As Saydulloyevich and Kizi (2022, p. 156) said, many studies on gender issues have shown that the distribution of gender roles in the family and society stems from the culture, spirituality, and lifestyle of the people. These authors refer, for example, a study with 14 different nationalities in which were found that conservative Europeans, unlike East Asians and Central Asians, were more likely to see human roles in their cultural territories. They also recognize that women should be able to engage in socially useful work and that family responsibilities should not interfere with this. In the specific case of Portugal, and with regard to higher education, there is a significant predominance of the female gender (Alves and Morais, 2021). It is important to highlight that, in the year 2020, in every 100 people with completed higher education, about 39 are men and 61 are women, who are also in the majority in the completion of master's and doctoral degrees (Cabrera, 2019; CIG and UAEP, 2021). Despite this commitment and significant predominance of women in terms of qualifications, gender segregation continues, precisely at the higher education level. Consequently, it is important to consider the asymmetries and differences that not only contribute to gender segregation, but also confirm the continuity of prejudice. A first conditioning factor to be highlighted in Higher Education has to do with the symbolic capital that presides over the separation between "so-called" female and "so-called" male courses, with all the burden of devaluation and subordination. Clearly, "so-called" masculine courses such as engineering, architecture and aeronautical sciences are more highly regarded. Courses with mathematics and exact sciences are perceived as too complex for the female "spirit". In contrast, there are courses "said" to be feminine, such as Psychology, Nursing and Early Childhood Education, which mirror the deep-rooted secondaryisation of feminine action. The same happens with scientific research, since, whenever there is a man on one side and a woman on the other, leadership is most often attributed to the researcher, proving male power to the detriment of female power (Cabrera, 2019). This panorama becomes worrying, as it tends to reinforce gender stereotypes regarding the choice of courses and professions, contributing to the perpetuation of inequalities in the choice of scientific areas (Card and Payne, 2021; Cimpian, KIme and Mcdermott, 2020). This situation is so worrying that the European Union has published several reports on the problem. In these texts, two problems are identified: horizontal segregation (disparity in the choice of courses) and vertical segregation (glass ceiling), where, although there has been a significant increase in women, it has not been possible to end the ancestral male supremacy in top career positions (EIGE, 2017; European Commission, 2015). Men continue to "own" the power to teach, organise and decide. This male power persists, even though women are in the majority and their academic results are higher. This phenomenon does not reflect the late incorporation of women into universities, but rather the reflection of a patriarchal society in which the androcentric rule is no exception (Bjerk, 2008). This perspective leads us to believe that, in higher education systems, coexistence and socialization practices are governed according to the patriarchal model, which is useful and convenient for continuing a system of violence and sexism, which, despite predating universities, has had the opportunity to consolidate in their communities (Flores Hernández and Jiménez Montes, 2017).

Thus, the underrepresentation of women in certain courses in HEIs, presents a symbolic meaning, which has nothing to do with competence or merit, but rather with a cultural capital that translates stereotypical perceptions (CIG and UAEP 2021, OECD, 2021).

## **2.2. Gender and conflict resolution**

The understanding of gender issues in conflict management and resolution and negotiation effectiveness is not recent but has been of increasing interest to researchers (Monteiro, Serrano and Rodrigues, 2011). Stuhlmacher and Linnabery (2013, p. 211) say that “the significance of gender in negotiation is due to the salience of male and female roles in society as well as the concern that negotiation gaps foster inequities between men and women in the workplace and other social spheres”. However, studies have not been consensual, as can be illustrated by the following presentation: Behaviours in the face of conflict may differ due to the presence or absence of the other gender, activating or deactivating some roles and stereotypes (James and Owens, 2004). Maxwell (1992) notes the existence of divergences in the way both male and female genders tend to perceive and react to conflict. One of Rahim's (1983) studies found that the female gender adopts more of an integrating, avoidance and compromise approach and less of an accommodating one than the male gender. According to the same perspective, Chanin and Schneer (1984) recognised women's skills and approaches to managing conflict situations, which allowed them to be considered collaborative. In this sense, this gender role advocates competitive or dominating behaviour in males (reflecting high concern for oneself and low concern for others) and avoidance or servanthood behaviour (reflecting high concern for others and low concern for oneself) (Monteiro, Serrano and Rodrigues, 2011). In turn, Sorenson and Hawkins (1995) noted more similarities than differences between preferred approaches to conflict management between men and women (although men scored higher in the domination style). In the same line of results, Mokhtarpour et al (2013) did not find a relationship between approaches to conflict and gender, except also for the domination style. Brewer et al. (2002) found that men presented a domination approach and women an avoidance approach in the way they deal with conflict. In general, Sutschek (2002) corroborates the similarity of conflict resolution strategies between men and women, identifying, however, difference in the order of their use. Thus, men used the strategies in the following order: integrating, compromising, forcing, dominating and avoiding and women in the following order: integrating, compromising, forcing, avoiding and then dominating. Only in the last two orders strategies are different. The gender difference in the ways of resolving conflicts was also not found in McIntyre's (2007) study except for the strategy of compromise which emerged as dominant among women. Regarding integrative negotiation and negotiation effectiveness, individual characteristics are highly relevant. Monteiro (2010) identified greater negotiation effectiveness when sensitivity and interdependence are present in the negotiation process, and these characteristics are more associated with the female gender. According to Sobral and Capucho (2019), there tends to be a stereotypical representation of the negotiator in the conflict management process, explaining that while the male procedure is the norm, the female procedure is different, which perpetuates the relational hierarchy. In the articulation between gender and negotiation in conflict resolution processes, Cunha (2008), Monteiro (2010) and Kuhnén (2014) highlight the importance of socialisation, moral values, identity and self-concept and the opponent's behaviour. It is highlighted that the female gender is associated with the act of caring, so it tends to present itself as relational, flexible, skilled in interpersonal communication and collaborative. For example, Barron (2003) identified motivational differences between genders in negotiation, stating that women focus their negotiation interests on interpersonal aspects and men aim to achieve their personal interests. Gilkey and Greenhalgh (1986) had already detected gender differences in the way negotiation is conceived, whereby for women negotiation is understood as a moment of a relational process and in which justice

and morality have influence, whereas for men negotiation is a short-lived event and they focus on the rules of the game. Cunha (2008) also highlights the process of acculturation of each individual, a fundamental part of the formation of the self-concept, which may explain the adoption of appropriate behaviours: women perceive themselves in the relationship with others and men see themselves as independent from others. According to the author, these behaviours stereotyped as masculine or feminine are also references for the analysis of conflict management styles by the androgynous gender, to alert to the fact that it is necessary to avoid the error of considering the biological sex as equivalent to the gender role. Still regarding gender differences, studies show that rationality is more associated with men, while emotions are more associated with women (Pavco-Giaccia et al., 2019). Prentice and Carranza (2002) also reinforce this idea, referring to the stereotype that men are more rational. This hypothesis of associating rationality with men was also tested by Greenwald, McGhee and Schwartz (1998) and studied by Hammond and Cimpian (2017). Another difference between both genders is related to the form of expression, and there are studies that indicate that men tend to be more decisive and assertive in the way they express themselves, particularly in an academic environment (Cromer et al., 2022). However, other authors claim that women are warmer but not less assertive than men (Park et al., 2016). Still in this regard, there are studies that indicate that men tend to be more assertive than women in public situations while women tend to be more assertive in private interpersonal settings (Mathison and Tucker, 1982). Also in this sense, Mohindra and Azhar (2012) argue that men tend to be more direct and instrumental in their way of communicating, in order to go straight to the point and take a position. Women, in turn, tend to be more expressive and emotional, to build relationships, namely in a negotiation process. Other authors also argue that women are more sensitive to opponent's emotional feedback, than men (Chen et al, 2018). There are also studies that show that this personality trait is not only a matter of gender, but also of culture. For example, according to Yang and Girus (2019), in countries with a more collective culture, both men and women tend to value relationships and be sensitive to others. In the case of more individualistic cultures, men tend to be more independent, and women are more concerned with relationships, showing more sensitivity towards others. When it comes to university students, studies are even smaller (Pegalajar, 2018). Navarro et al. (2012) observed that among law and psychology students at the University of Huelva the integrative and compromise conflict management style predominated, which meant a tendency to resolve conflicts through agreements that satisfied the self-interest and that of the other. Villamediana, Donado and Zerpa (2015) identified a sequence of conflict management strategies, with a predominance for the integrative strategy, followed by the commitment strategy, dominator and, lastly, the avoidance strategy. Regarding the issue of gender, behavioural styles and conflict resolution among university students differences were found, which may be due to differential socialisation processes according to traditional gender roles and stereotypes (Garaigordobil, Machimbarrena and Maganto, 2016; Luna and De Gante, 2017). For example, in the research conducted by Brahnham et al. (2005) with Information Course students, it found that the female gender is more likely to use a collaborative strategy and the male gender are more prone to avoid conflict. For these authors, the female gender may possess qualities that make conflict resolution more effective. According to several authors (Garaigordobil, Machimbarrena and Maganto, 2016; Luna and De Gante, 2017; Luna and Laca, 2014; Pegalajar, 2018) the difference between gender and conflict management styles is due to the influence of differential educational models according to gender, which bet more on the development of interpersonal skills among women. Kaseh (2014), meanwhile, identified significant gender differences in competition and commitment styles between male and female academics. For Cabrera and Bautista (2016), although the results show that university students resolve conflicts by avoidance and accommodation, highlighting the fact that they are explained by competition associated with the need for power and recognition, does not consider that

gender is associated with conflict resolution. However, the same authors denounce the need for academic training to be oriented towards an understanding of conflict as moments of personal and social opportunity and to train students to better resolve conflicts in an integrated, collaborative way. In a comparative study on conflict resolution, in relation to gender, among two universities, in India, Ahmed and Aijaz (2021, p. 133) find that “male students of both the universities tend to prefer consideration style when individual data were analysed. However, comparative data revealed non-significant outcomes on any dimension of the AMU and JMI. On the contrary, the female students of AMU outshine their female counterparts of JMI in using Consideration and Power styles while resolving conflicts”. In short, overall, there seem to be no major differences between styles chosen by the male and female genders (Sobral and Capucho, 2019), with only the caveat that the former tends more towards confrontation and the latter towards cooperation. However, studies show weak relationship and inconsistency between gender and conflict management and there are few studies on negotiation effectiveness and conflict management styles.

### 3. EMPIRICAL FRAMEWORK

This study aims to develop a pilot scale for future projects on negotiation skills and conflict resolution appropriated for use in the academic context, namely with undergraduate students, considering the gender. To achieve the objective of this study, we collected data using an online questionnaire, that was carried out during the month of March. The population of this pilot-scale was 235 students (97 men and 135 women) of bachelors of a Portuguese Private Higher Education Institution. At the time of data collection, most of the students attended the first year of the course ( $n = 116$ ; 49.4%), followed by those who attended the second year ( $n = 74$ ; 31.5%), and the third year ( $n = 45$ ; 19.1%). In terms of time since they initiate the course, 101 (43%) of the students initiated about two to three years ago, 86 (36.6%) less than a year, 33 (14%) between one and two years, and 15 (6.4%) more than three years. Most students were attending Management ( $n = 69$ ; 29.4%), followed by Psychology ( $n = 48$ ; 20.4%), and other courses ( $n = 118$ ; 50.2%). Forty-six (19.6%) participants were student workers. It was used the Effective Conflict Resolution and Negotiation Skills Scale (Mamatoğlu and Keskin, 2019), which assesses behavioral, emotional and cognitive conflict resolution and negotiation attitudes through forty items onto a five-interval Likert type scale. The scale includes 7 sub-dimensions, namely negotiator's style (items: 7, 12, 17, 18, 19, 21, 24, 25, 33); rationality and common sense (items: 1, 11, 15, 16, 22, 23); sensitivity for opponents (items: 27, 28, 30, 31, 32, 40); goal orientation (items: 34, 35, 36, 37, 38, 39); planning (items: 2, 3, 4, 5); effective communication (items: 6, 8, 9, 10, 26); expressing oneself decidedly (items: 13, 14, 20, 29). In the original study, the Cronbach's Alpha was .87 for negotiator's style, .74 for rationality and common sense, .61 for sensitivity for opponent, .74 for goal orientation, .67 for planning, .75 for effective communication and .61 for expressing oneself decidedly. The Cronbach's Alpha of total scale was .90. Additionally, the Cronbach's Alpha of the present sample was .90 for negotiator's style, .81 for rationality and common sense, .92 for sensitivity for opponent, .93 for goal orientation, .86 for planning, .84 for effective communication and .81 for expressing oneself decidedly. The Cronbach's Alpha of total scale was .97. The seven sub-dimensions were included in a logistic regression model to assess the odds of belonging to the male or female groups. The full model was significantly reliable ( $\chi^2(7) = 18.01$ ,  $p = 0.012$ ), and Hosmer-Lemeshow test indicated a good fit of the data ( $p = 0.17$ ), accounting for 9% and 11% of gender variance.

### 4. RESULTS AND DISCUSSION

Regarding the questions related to the competence scale, of the totality of the 235 answers, there is a high level of agreement in relation to all the items of the questionnaire. So, in general, the

students surveyed demonstrate good negotiation and conflict management skills. In relation to gender and the seven sub-dimensions of the scale, the analyses showed that “rationality and common sense” was significantly associated with an increase in the odds of belonging to the male group by a factor of 1.182 (54% chances to belong to the male group), 95% CI for EXP(B) [1.03-1.36], as well as “expressing oneself decidedly” was significantly associated with an increase in the odds of belonging to the male group by a factor of 1.23 (55% chances to belong to the male group), 95% CI for EXP(B) [1.03-1.47]. Conversely, the analyses showed that “sensitivity for opponents” was significantly associated with an increase in the odds of belonging to the female group by a factor of 0.86 (54% chances to belong to the female group), 95% CI for EXP(B) [0.75-0.98] (see Table 1).

Variable	B	(SE)	95% CI for Odds Ratio		
			Lower	Odds Ratio	Upper
Constant	0.80	(1.16)		2.22	
Negotiator's style	-0.03	(0.06)	0.86	1.01	1.09
Rationality and common sense	0.17	(0.07)	1.03	1.18*	1.36
Sensitivity for opponents	-0.15	(0.07)	0.75	0.86*	0.98
Goal orientation	0.01	(0.06)	0.90	1.01	1.14
Planning	-0.05	(0.08)	0.82	0.95	1.10
Effective communication	-0.13	(0.07)	0.76	0.88	1.02
Expressing oneself decidedly	0.21	(0.09)	1.03	1.23*	1.47

Note:  $R^2 = .09$  (Cox & Snell),  $.11$  (Nagelkerke). \*  $p < .05$ .

*Table 1: Logistic Regression Analysis to Examine the Effect of Effective Conflict Resolution and Negotiation Skills by Gender*  
(Source: Own authorship)

Comparing the literature with the results, we can see that, in the case of men, there are studies that attribute greater rationality to this gender (Pavco-Giacca et al., 2019), which is in line with the results obtained here, that showed that “rationality and common sense” was significantly associated with an increase in the odds of belonging to the male group. This idea is also in line with Prentice and Carranza (2002), Greenwald, McGhee and Schwartz (1998) and Hammond and Cimpian (2017). In relation to “expressing oneself decidedly” we can observe that this sub-dimension is more associated with the masculine gender. This is in line with studies showing that men tend to be more assertive than women (Cromer et al., 2022) and men tend to be more direct and adopt an instrumental style of communication (Mohindra and Azhar, 2012). This allows us to meet the idea of men being more dominant, which is why they try to mark their point of view in a negotiation process (Sorenson and Hawkins, 1995; Brewer et al., 2002; Monteiro, Serrano and Rodrigues, 2011; Mokhtarpour et al., 2013). Concerning “sensitivity for opponents”, this sub-dimension was more associated to women. This is in line with the idea of Mohindra and Azhar (2012), who indicate that women tend to be more expressive and emotional, to build relationships, namely in a negotiation process. This feature allows for more integrative (Rahim, 1983) and collaborative (Chanin and Schneer, 1984) conflict management approaches. At the level of university students, there are studies that also indicate that women tend to be more collaborative, which makes them more effective in negotiation (Brahnam et al., 2005). In this sense, several authors argue that women tend to be more successful in a negotiation process, due to their greater sensitivity and interdependence (Monteiro, 2010), which leads them to be more concerned with their opponents, in a situation of conflict. In fact, the opponent's point of view must be considered (Cunha, 2008; Kuhnén, 2014; Monteiro, 2010). In this sense, the female gender has a negotiation style more based on relational logic (Barron,

2003; Cunha, 2008; Gilkey and Greenhalgh, 1986). This greater sensitivity to others is also attested, albeit partially, by Yang and Girgus (2019) and by Chen et al. (2018). Partially because culture plays a relevant role here, even at the historical level, insofar as women are traditionally more associated with family values (Mourão and Galinkin, 2008), which helped to build certain stereotypes (James and Owens, 2004; Bertolini, 2008; Cimpian, Klime and McDermott, 2020; Card and Payne, 2021), that are not dissociated from education and academic life, which evolves in parallel with society (Bourdieu and Passeron, 1970), creating even more prejudices built on this traditional view (Garcia et al., 2011). This issue of stereotypes also arises at the level of higher education students (Garaigordobil, Machimbarrena and Maganto, 2016; Luna and De Gante, 2017). It is also important to point out that this tendency to manage interpersonal relationships with greater sensitivity not only derives from culture or society, but also from educational models, which tend to develop these skills more in women (Garaigordobil, Machimbarrena and Maganto, 2016; Luna and De Gante, 2017; Luna and Laca, 2014; Pegalajar, 2018). Hence, at the academic level, women are also more associated with compromise-based negotiation styles and men identify more with competitive styles (Kaseh, 2014). And even when the differences are not significant in terms of gender, there is still a greater tendency for women to be more collaborative and men more competitive (Sobral and Capucho, 2019). Thus, concerning these three sub-dimensions that showed a correlation with gender, the results seem to coincide with the literature, even though there are few studies at the level of higher education, in this matter. In the case of the remaining sub-dimensions of the scale, there were no significant correlations with the gender variable.

## **5. CONCLUSION**

The present research raised questions about how conflict resolution and negotiation skills can be measured. Researchers such as Pavco-Giacca et al. (2019) and Prentice and Carranza (2002) postulated, in their studies about gender differences, that rationality is more associated with men, while emotions are more associated with women. While the studies by Chen et al. (2018) showed that women, in turn, tend to be more expressive and emotional, to building relationships, namely in a negotiation process. The results of the present research showed that men are more associated with the sub-dimensions "rationality and common sense" and "expressing oneself decisively" and that women tend to be more associated with the sub-dimension "sensitivity to opponents". These findings should provide a basis for future studies to examine individual differences between negotiators in a population of higher education students, based on differences that may be at the origin of the gender variable. In this context, future studies on negotiation skills and conflict resolution appropriate for use in the academic context are suggested, namely with undergraduate students of courses more referred to as males (such as engineering and architecture) and courses said to be more female (such as psychology and nursing). Although the study is in a pilot-scale perspective, the regional or national culture, in terms of environment, refers to the limitation of some particularities related to local diversity, in the north and south regions, for example, since this sample refers to a Higher Education Institution located in the north of Portugal. Finally, this research with a quantitative approach sought to generate useful and relevant results for researchers and decision-makers in education. Such a contribution fits into the research agenda on the topic and may influence and/or contribute to the policies and practices of training higher education students. Male and female students need adequate negotiation and conflict resolution skills to use in the professional and social context.

**LITERATURE:**

1. Ahmed, A. and Aijaz, N. (2021), “A comparative study of conflict resolution styles among university students”, *International Journal of Research in Social Sciences*, 11 (10).
2. Alves, M. and Morais, C. (2021). “A Inserção Profissional de Licenciados e Mestres: Efeitos Paradoxais Da Feminização Do Ensino Superior Em Tempos de Incerteza”, *Sociologia, Problemas e Práticas*, 95, pp. 103–26. <https://doi.org/http://dx.doi.org/10.7458/SPP20219514578>.
3. Barron, L. A. (2003). “Ask and you shall receive? Gender differences in negotiators’ beliefs about requests for a higher salary”, *Human Relations*, 56 (6), pp 635-662.
4. Bertolini, L. B. (2002). *Relações entre o trabalho da mulher e a dinâmica familiar* (2<sup>a</sup> ed.). São Paulo: Vetor.
5. Bjerk, D. (2008). “Glass Ceilings or Sticky Floors? Statistical Discrimination in a Dynamic Model”, *Economic Journal*, 118, pp. 961-962.
6. Bourdieu, P. and Passeron, J. C. (1970). *A Reprodução: Elementos para uma Teoria do Sistema de Ensino*. Lisboa: Vega.
7. Bourdieu, P. (1999). *A dominação Masculina*. Oeiras: Celta Editora.
8. Brahnham, S. D., Margavio, T. M., Hignite, M. A., Barrier, T. B., and Chin, J. M. (2005), “A gender-based categorization for conflict resolution”, *Journal of Management Development*, 24 (3), pp. 197-208. <https://doi.org/10.1108/02621710510584026>
9. Brett, J. & Thompson, L. (2016). Negotiation”, *Organizational Behavior and Human Decision Processes*, 136, pp. 68–79.
10. Brewer, N., Mitchell, P., and Weber, N. (2002). “Gender Role, Organizational Status, and Conflict Management Styles”, *The International Journal of Conflict Management*, 13 (1), pp. 78-94.
11. Brett, J., Northcrafty, G. and Pinkley, R. (1999). “Stairways to heaven: An interlocking self-regulation model of negotiation”, *The Academy of Management Review*, 24, pp. 435–451.
12. Butler, J. K., Jr. (1994). “Conflict styles and outcomes in a negotiation with fully-integrative potential”, *International Journal of Conflict Management*, 5, pp. 308-325.
13. Cabrera, A. (2019). “Desigualdades de género em ambiente universitário: Um estudo de caso sobre a Faculdade de Ciências Sociais e Humanas da Universidade Nova de Lisboa”, *Faces de Eva*, 41, pp. 47-65. [https://run.unl.pt/bitstream/10362/94527/1/Desigualdades\\_de\\_g\\_nero\\_em\\_ambiente\\_universit\\_rio.pdf](https://run.unl.pt/bitstream/10362/94527/1/Desigualdades_de_g_nero_em_ambiente_universit_rio.pdf)
14. Cabrera, H. F., Bautista, F. J. (2016). “Estilos de resolución de conflictos en estudiantes universitarios”, *Revista Logos, Ciencia & Tecnología*, 8 (1), pp. 3-11.
15. Card, D. and Payne, A. (2021). “High school choices and the Gender Gap in STEM”, *Economic Inquir*, 59 (1), pp. 9-28. <https://doi.org/10.1111/ecin.12934>
16. Carroll, J. S., Bazerman, M. H. and Maury, R. (1988). “Negotiator cognitions: A descriptive approach to negotiators’ understanding of their opponents”, *Organizational Behavior and Human Decision Processes*, 41(3), pp. 352–370.
17. Chanin, M. N., and Schneer, J. A. (1984). “A study of the relationship between Jungian personality dimensions and conflict-handling behavior”, *Human Relations*, 37, pp. 863-879. doi 10.1177/001872678403701006
18. Chen, X., Yuan, H., Zheng, T., Chang, Y. and Luo, Y. (2018). “Females Are More Sensitive to Opponent’s Emotional Feedback: Evidence From Event-Related Potentials”, *Frontiers in Aging Neuroscience*, 12, p. 275.
19. Cimpian, J., Kime, T. and Mcdermott, T. (2020). “Understanding persistent gender gaps in STEM”, *Science*, 368, pp. 1317–1319. <https://www.science.org/doi/10.1126/science.aba7377>



20. Comissão para a Cidadania e Igualdade de Género, and Unidade de Apoio à Estratégia e Planeamento. Igualdade de Género Em Portugal: Boletim Estatístico 2021. [https://www.cig.gov.pt/wp-content/uploads/2021/11/2021\\_11\\_16\\_BE\\_VFINAL\\_web.pdf](https://www.cig.gov.pt/wp-content/uploads/2021/11/2021_11_16_BE_VFINAL_web.pdf).
21. Cromer, S. J. et al. (2022). “Gender Differences in the Amount and Type of Student Participation During In-Person and Virtual Classes in Academic Medicine Learning Environments”, *JAMA Netw Open*, 5(1), pp. 1-4.
22. Cunha, P. (2008). “A diversidade de práticas na relação género, conflito e negociação”, *Revista da Faculdade de Ciências Humanas e Sociais da UFP*, 5, pp. 266-279. <https://bdigital.ufp.pt/bitstream/10284/898/1/266-279.pdf>
23. Descarries, F. and Mathieu, M. (2010). *Entre le rose et le bleu: stéréotypes sexuels et construction sociale du féminin et du masculin*. Québec: Conseil du Statut de la Femme.
24. Dildar, S. and Amjad, N. (2017). “Differences in Conflict Resolution Styles (CRS) in Different Roles: a Systematic Review”. *Pakistan Journal of Social and Clinical Psychology*, 15 (2), pp. 37-41.
25. European Institute of Gender Equality. Gender equality index (2017). Measuring gender equality in the European Union 2005-2015. Doi:10.2839/707843
26. European Commission. (2015). She figures 2015: Gender in research and education. Luxembourg. Doi: 10.2777/744106
27. Flores Hernández, A. and Jiménez Montes, L. (2017). “Socialización y sociabilidad de género en un escenario universitario altamente masculinizado”, *Feminismo/s*, 29, pp. 71-98, Doi: 10.14198/fem.2017.29.03.
28. Garaigordobil, M., Machimbarrena, J. M. and Maganto, C. (2016). “Adaptación española de un instrumento para evaluar la resolución de conflictos Conflictalk: datos psicométricos de fiabilidad y validez. *Revista de Psicología Clínica con Niños y Adolescentes*, 3 (2), pp. 59-67.
29. Gilkey, R. and Greenhalgh, L. (1986), “The role of personality in successful negotiating”, *Negotiation Journal*, 2 (3), pp. 245-256. <https://doi.org/10.1111/j.15719979.1986.tb00362.x>
30. Greenwald, A. G., McGhee, D. E. and Schwartz, J. L. K. (1998). “Measuring individual differences in implicit cognition: The implicit association test”, *Journal of Personality and Social Psychology*, 74(6), pp. 1464–1480.
31. Hammond, M. D. and Cimpian, A. (2017). “Investigating the cognitive structure of stereotypes: Generic beliefs about groups predict social judgments better than statistical beliefs”, *Journal of Experimental Psychology: General*, 146(5), pp. 607-614.
32. Hernandez-Arenaz, I., & Iriberry, N. (2019). “A Review of Gender Differences in Negotiation”, *Oxford Research Encyclopedia of Economics and Finance*, pp. 1-20. <https://doi.org/10.1093/acrefore/9780190625979.013.464>
33. James, V. H., and Owens, L. D. (2004). “Peer Victimization and Conflict Resolution Among Adolescent Girls in a Single-sex South Australian School”, *International Education Journal*, 5 (1), pp. 37-49.
34. Kaseh, O. F. El. (2014). “Gender effect on the styles of managing interpersonal conflicts: an exploratory study on the academic staff of Sirte University”, *Journal of Basic and Applied Scientific Research*, 4 (5), pp. 191–203.
35. Kray, L. J. & Haselhuhn, M. (2007). “Implicit negotiation beliefs and performance: Longitudinal and experimental evidence”; *Journal of Personality and Social Psychology*, 93 pp. 49–64.
36. Kuhnen, T. A. (2014). “A ética do cuidado como teoria feminista”. *Anais do III Simpósio Género e Políticas Públicas*, pp. 1–9. [http://www.uel.br/eventos/gpp/pages/arquivos/GT10\\_Tânia Aparecida Kuhnen.pdf](http://www.uel.br/eventos/gpp/pages/arquivos/GT10_Tânia Aparecida Kuhnen.pdf)

37. Luna, A. and Laca, F. (2014). “Estilos de mensajes en el manejo de conflictos en adolescentes y jóvenes mexicanos” *Boletín de Psicología*, 110, pp. 37-51.
38. Luna, A.C. and De Gante, A. (2017). “Empatía y gestión de conflictos en estudiantes de secundaria y bachillerato”. *Revista de Educación y Desarrollo*, 40, pp. 27-37.
39. Mamatoğlu, N. and Keskin, S. (2019). “Effective Conflict Resolution and Negotiation Skills Scale”, *Hacettepe Üniversitesi Edebiyat Fakültesi Dergisi*, 36(1), pp. 133-149.
40. Mathison, D. L. and Tucker, R. K. (1982). “Sex Differences in Assertive Behavior: A Research Extension”, *Psychological Reports*, 51(3), pp. 943-948.
41. Maxwell, D. (1992). “Gender differences in mediation style and their impact on mediator effectiveness”, *Mediation Quarterly*, 9, pp. 353 – 363.
42. McIntyre, S. E. (2007). “Como as pessoas gerem o conflito nas organizações: Estratégias Individuais Negociais”, *Análise Psicológica*, 2 (15), pp. 295-305. doi: 10.14417/ap.447
43. Mohindra, V. and Azhar, S. (2012). “Gender Communication: A Comparative Analysis of Communicational Approaches of Men and Women at Workplaces”, *Journal of Humanities and Social Science*, 2(1), pp. 18-27.
44. Mokhtarpour, S., Khademi, M., and Mokhtarpour, H. (2013). “Survey of relationship between principals’ demographic characteristics and conflict management style choices”, *Journal of Advances in Medical Education and Professionalism*, 1 (2), pp. 64-67.
45. Monteiro, A. P., Rodríguez, D. & Serrano, G. (2011). O papel do género na resolução do conflito. M. Chaleta, N. Santos and M. Grácio, Actas II Congresso Internacional Interfaces da Psicologia, pp. 406-414). Évora: Centro de Investigação em Educação e Psicologia. ISBN: 978-989-8339-12-6.
46. Monteiro, A. P. (2010). *Eficácia negocial e características pessoais dos negociadores*. Tese de doutoramento. Universidade de Santiago de Compostela. [https://minerva.usc.es/xmlui/bitstream/handle/10347/3007/9788498875966\\_content.pdf?sequence=1](https://minerva.usc.es/xmlui/bitstream/handle/10347/3007/9788498875966_content.pdf?sequence=1)
47. Mourão, T. M. and Galinkin, A. L. (2008). “Equipes gerenciadas por mulheres - Representação social gerenciamento feminino”, *Psicologia. Reflexão e Crítica*, 21(1), pp. 91-99. Doi: 10.1590/S0102-79722008000100012.
48. Navarro, Y., López, M<sup>a</sup> J., Climent, J.A. and Ruíz, M<sup>a</sup> J. (2012). “Desarrollo de competencias de gestión de conflictos en la formación universitaria”, *Revista Iberoamericana de Educación*, 60 (2), pp. 1-11.
49. Organisation for Economic Co-operation and Development. (OECD) Education at a Glance 2021. <https://www.oecd.org/education/education-at-a-glance/>
50. Pavco-Giacca, O., Little, M. F., Stanley, J. and Dunham, Y. (2019). “Rationality is gendered”, *Collabra Psychology*, 5(1), pp. 1-15.
51. Park, G. et al. (2016). “Women are warmer but no less assertive than men: gender and language on Facebook”, *PLoS One*, 11(5), pp. 1-26.
52. Pegalajar, M. (2018). “Analysis of the management style of interpersonal conflict in university students”, *Revista Iberoamericana de Educación*, 77 (2), pp. 9-30.
53. Prentice, D. A., & Carranza, E. (2002). “What women should be, shouldn't be, are allowed to be, and don't have to be: The contents of prescriptive gender stereotypes”, *Psychology of Women Quarterly*, 26(4), pp. 269–281.
54. Rahim, M. A. (1983). “A measure of styles of handling interpersonal conflict”. *Academy of Management Journal*, 26 (2), pp. 368-376.
55. Saydulloyevich, Y. and Kizi, N. (2022). “Analysis of pedagogical problems of gender differences in resolving conflict situations”, *International Scientific Research Journal*, 3 (3), pp. 154-157.
56. Scott, J. (1995). “Género: uma categoria útil de análise histórica”, *Educação e Realidade*, 20 (2), pp. 71-99.

57. Sobral, S. and Capucho, F. (2019). “Conflict management in organizations: conceptualization and gender differences”, *Gestão e Desenvolvimento*, 27, pp. 33-54.
58. Sorenson, P. and Hawkins, K. (1995). “Gender, psychological type and conflict style preference.”, *Management Communication Quarterly*, 9, pp. 115-127.
59. Sutschek, L.B. (2002). “Conflict Resolution Style and Experience in Management: Moderating the Effects of Gender”, *V UW-La Crosse JUR*, V, pp. 69-78.
60. Stuhlmacher, A. and Linnabery, E. (2013), Gender and negotiation: a social role analysis, M. Olekalns and Wendi, A., a Handbook of Research on Negotiation, pp. 221-249 (Chapter: 9). London: Edward Elgar.
61. Vieira, C. (2006). *Educação familiar: estratégias para a promoção da igualdade de géneros*. Lisboa: Comissão para a Igualdade e para os Direitos das Mulheres.
62. Villamediana, J., Donado, A. AND Zerpa, C.E. (2015). “Estilos de manejo de conflictos, inteligência emocional y desarrollo moral”, *Revista Dimensión Empresarial*, 13 (1), pp. 73-94.
63. Yang, K. and Girgus, J. S. (2019). “Are Women More Likely than Men Are to Care Excessively about Maintaining Positive Social Relationships? A Meta-Analytic Review of the Gender Difference in Sociotropy”, *Sex Roles*, 81, pp.157–172.

## THE SQUARE AS A MEETING: THE CULTURE OF REMEMBRANCE AND HISTORY

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### **ABSTRACT**

*The square is a dynamic place, pulsing with life in all its expressive forms, and a public place where people learn all information of importance for the wider social community. In urban planning terms, the square is an open space, often surrounded by the walls of buildings serving a public function, and the basic unit of measurement of any city's urban topography. The relationship between the square and political power is one of the key questions in the analysis of the former's importance. On top of its role as a religious and commercial hub, the square is a symbol of democracy and the lifeblood of the city, a place to discuss politics and other issues of significance related to the city. To this day, it has remained the centre of city life, a place to discuss the latest news and brainstorm new ideas, a place of cultural production and decadence, and a place to observe life in the city in its entirety. Social relations and culture shape a space, but the space also co-shapes social relations at the same time. Our paper analyses the square as a cultural presentation of power, knowledge and space in the context of documentary value of heritage records tracing the identity-shaping process, through which an individual builds their own position within a certain social structure.*

**Keywords:** Culture, History, Knowledge, The Square

### **1. INTRODUCTION: THE SQUARE AS A POPULAR URBAN MEETING PLACE**

Ever since the antiquity, the square (agora, square, marketplace) has been recognised as a meeting place at the heart of the city, and the venue of public, social, political and commercial life. The square is also considered a manifestation of public space that brings the city's residents together in one place to discuss or debate important topics. Decisions were often held in squares, witches were burned in squares in the Middle Ages, and sermons were given there. All major celebrations took place in squares, and uprisings and revolutions were mostly conceived in squares, and started in squares. To put it simply, the square is the hub where citizens get together to communicate, share their ideas, problems, experiences, and knowledge with each other, and listen to and accept the experiences of others. The square is a place where information is exchanged, contrasted, commented on, and disseminated. The square is a dynamic place, pulsing with life in all its expressive forms, and a public place where people learn all information of importance for the wider social community. In urban planning terms, the square is an open space, often surrounded by the walls of buildings serving a public function, and the basic unit of measurement of any city's urban topography. The relationship between the square and political power is one of the key questions in the analysis of the former's importance. On top of its role as a religious and commercial hub, the square is a symbol of democracy and the lifeblood of the city, a place to discuss politics and other issues of significance related to the city. To this day, it has remained the centre of city life, a place to discuss the latest news and brainstorm new ideas, a place of cultural production and decadence, and a place to observe life in the city in its entirety. V. Gulin Zrnić and N. Škrbić Alempijević underline that "spacifying" culture means analysing social practices, relations and representations in space and in

interaction with the space, this approach originating in the social and humanities maxim according to which social relations and culture shape the space, but the space also co-shapes social relations at the same time (Gulin Zrnić; Škrbić Alempijević, 2019: 12). The task of defining the city is increasingly often undertaken in a number of disciplines, which contributes to an even more complex set of meanings, and points to the importance of the city in the broadest range of disciplines. The expansion of urban areas worldwide and the increase in their populations, the many roles the cities play and the processes unfolding within them, along with the increasingly prominent global cultural, economic and political interdependence of these centres of human life and creation, have considerably increased the popularity of urban topics in a variety of scientific disciplines. The expansion of the urban society has unquestionably put the city back into vogue, driving social sciences and the humanities alike to increasingly address urban issues even when they would prefer to avoid them. For this reason, cities are places where the global changes are reflected and deepened, their inhabitants driving these changes and being affected by them at the same time. The city represents the historical framework for social synthesis and the site of all developments, including in government, politics, power, organisation, authority and social conflict (Pušić, 2014: 11). Mumford (2010) understands the city as a geographic hub, an economic organisation, an institutional process, a space for social action, and an aesthetic symbol of collective unity, underlining that whatever people are unable to imagine as an unclear, formless society, they are able to experience and live through as the inhabitants of a city. Within the city, their united plans and buildings become the symbols of their social connection. In fact, the city is a physical form of the most exalted and most complex types of life in a group, where adequate social planning can only be a part of the obligatory social plan. The spatial characteristics of urban environments considerably impact the generation and preservation of a community's identity. Even though the approaches we have mentioned tend to separate the city from a solely spatial, territorial, and quantifiable idea, laying the emphasis on the social, symbolic, and living experience of the city as well, the focus on social factors in the definition of a city increased in the second half of the 20<sup>th</sup> century. Sociologist Henri Lefebvre offered one of the well-known theories of space, based on urban examples, in many of his works, arguing that urban forms, as specific spaces, are packed with opinion and symbolism, "made up of meaning, language and symbols in addition to the material aspect, always comprising complex relations and separations, presences and absences" (Šarinić, Čaldarović, 2015: 194). In his most important work, "La production de l'espace", published in 1974, Lefebvre proposes the trialectics of spatiality, exploring intertwining cultural practices, representations and imaginations, and arguing that the space is composed of three inseparable aspects: the objective, conceived, and lived space. He built his ideas under the influence of the theories of Michael Foucault (2008), elaborated in the text "On other spaces", where Foucault presents the same space as a social construct, developing heterotopia theories. In addition, Lefebvre developed the foundations for further study of space and urban environments that many other theoreticians built on. Historical and geographic materialism in the humanities and Marxist geography of the 1970s, which Lefebvre belongs to, has played one of the most important roles in urban studies. Studying the concepts of place and space, this discipline has come the farthest in moving away from the absolute, or empirical and physical, observation of spatiality, which suggested that the world is essentially a "blank canvas", with no active role in shaping social life, merely serving as the background against which social relations take place (Hubbard, 2008: 72). As this form of "spatial science" was dismissed, it was replaced by a much different interpretation of spatiality, arguing that space is involved in social relations, and the society produces as well as consumes it. As M. Castells (2000) has put it, space is an expression rather than a reflection of the society. In other words, rather than being a photocopy of the society, space *is* society, and offers motives to help us interpret changes in the society.

The emergence of disciplines such as urban anthropology, which confirms the interest in exploring man, and his culture within the city, is also significant. Anthropologists view the city not only as place to live, work, rest and engage in social interactions in, but also as a part of an artificially shaped environment, and especially as a place of symbolic identification. Urban anthropologist V. Galun Zrnić underlines that the city is a culturally and socially constructed reality that should, due to its differences and the political, urban, social, cultural and national systems and visions residing within it, be analysed in layers, and as a process (Galun Zrnić, 2006: 7). In urban anthropology, Setha M. Low diverges from the discussions about the essence of the city, and advocates the study of social relations, symbols and political economies that manifest themselves the most within the city (Low, 2006: 17-18), pointing out that theoretical study of the city is essential for the understanding of the world we live in, even though the city is not the only place where the said connection can be studied. However, the intensification of these processes and their impacts on people is most apparent and best understood in cities. Heritage is thus understood as a driving force in future development of cities (Mesić, 2019: 69), and heritage and heritage localities are increasingly mobilised as important cultural, political and economic resources (Atkinson, 2008: 190). M. Brkljačić and S. Prlenda argue that “while many past events are irretrievably lost to oblivion, others gain importance momentarily and are considered worth remembering. Yet others rise to the surface after a long period of hibernation in private recollections, unread books and archives. Some memories seem to endure eternally, taking on myth proportions, and rendering historians helpless to face the audience with the scientific truth. The past is immensely important as the key to identity building, but historians are not the only ones who shape our knowledge of the past, not even remotely. The citizens are the ones who give it importance” (Brkljačić; Prlenda, 2006: 9). According to urbanist Lawrence Halprin, the square is a popular city space, with an inherent power that drives people to get together, meet and chat in the benches set up in resting and relaxation spots. Unlike chairs, which are designed for a single person, benches are a metaphor of togetherness as a collective seat, providing an opportunity for citizens to get together, and for passers-by to rest. City life often took place in the open, including rest and relaxation, and benches were obligatory in the vicinity of public or private buildings. Without benches, the city’s resident feels like a casual passer-by; by sitting on a bench, he becomes an integral part of the city, an active and present participant. Benches were therefore an essential part of urban equipment on the main square, rather than a luxury. According to Halprin, “You can judge a city by its benches: how many are available to passers-by, how are they made and placed, tells us how the city cares about the comfort of its citizens and visitors” (Halprin, 1974: 56). The square is also a place tailored to fit the needs of a strolling man, with wells that children and sparrows can have a drink from, flags flapping in the breeze, and awnings in front of shops, with signs above their doors visible from all angles, which often provide shelter in case of summer rain.

## **2. ENDURING SQUARES: AROUND THE MAIN SQUARE OF OSIJEK’S INNER TOWN**

V. Gulin Zrnić and N. Škrbić Alempijević underline that the exploration of cities and the creation of squares should be approached by understanding their ontology as a meeting. They define three mainstays of the relationship city-meeting: public spaces, performance, and affectation (Gulin Zrnić; Škrbić Alempijević, 2019: 17). In public spaces, the city manifests itself as a community of people; they are the key spots of urban sociality and urban meetings. According to the authors, public spaces “bear the imprint of political, economic and material factors, as well as the constellations of power within which the public spaces were built, but also of the tactics of appropriation, and the knowledge and experience inscribed in them by the occupants of the space” (Gulin Zrnić; Škrbić Alempijević, 2019: 19). Performance, defined by Schechner as an activity with spatial and temporal boundaries, enacted and presented to others,

places the focus on those carrying out the performing act, but also on those for whom, before whom and in relation to whom the act takes place (Gulin Zrnić; Škrbić Alempijević, 2019: 20–21). The authors define affectation as the intensiveness an individual experiences in a social context in relation to another person, group, being, object, phenomenon or concept, by which squares are assigned the role of actors in the social network. The authors understand affectation as earlier meanings “inscribed into the space by people, and as unwritten rules and expected human behaviours within in” (Gulin Zrnić; Škrbić Alempijević, 2019: 24–25). The main square in Osijek’s Inner Town, created when the military fortress was built in the location, was originally named “Vinski trg” (Wine Square) (Sablić Tomić, 2022: 101–125). The name is a reference to winemakers from Baranja, who brought their wine there every Saturday and Wednesday to sell it to soldiers and innkeepers. Osijek’s first public park, with a surface area of 7,503 square meters, was designed there in 1710 by the military authorities. A wooden shack known as “Kramel-kasino”, where stands were set up selling wine for personal use to the residents and passers-by, was located in immediate vicinity of the square, across the street from the post office. Meat and fresh sausages were roasted nearby. With its rectangular shape, formed by a cross-section of eight streets, the square is a typical example of the orthogonal Baroque urban concept, reflecting on the historical heritage that defined the uneven position of civilian blocks undermining the planned geometrical Baroque harmony so that the intersections are mostly irregular: almost none are positioned at a right angle (Vitek. 2004: 127). Several vital city institutions surrounded the square. The City Magistrate and Commercial Directorate building, erected in Baroque style in 1702, is the oldest public building at the square. The houses of tradesman Ilija Lekić and the first city magister Ferdinand Daniel Vesentin stood next to it. The seat of the garrison’s treasury and local command, known as “Glavna straža” (Main Watch), was built between 1722 and 1728 (Plevnik, 1987: 35). The Turkish border post “Baš-karaula” with its famous tower “Sahat kula” used to be located there. The military command centre building, featuring a stone portal decorated with two atlantes, flanked by double pillars and overlooked by a curving balcony, was built on the north side of the square between 1724 and 1726 on the orders of Prince Eugene of Savoy. The “Generalatshaus” was the seat of the General Command of Slavonija between 1735 and 1786, and of the Provincial Government of Slavonija between 1736 and 1745. Its eastern wing was originally used as an artillery barracks that was incorporated into the military command building in later reconstructions. Austrian Emperor and Croatian-Hungarian King Joseph II stayed at the General Command building when he visited Osijek. On the occasion of his fourth visit to Tvrđa, the Emperor did not even stay for two full days, but he made the time to meet with Matija Petar Katančić after lunch in the afternoon of 30 April 1783, according to “Ljetopis” (Chronicles): “Joseph II received Petar Katančić of Valpovo, Croatian, a public professor at the Second Humanities Grammar School, and spoke to him for a while about our situation and various other affairs” (Sršan, 1993: 102). Katančić then presented the Emperor with his work “De Columna Romana” (On the Roman Milestone), discussing the road or embankment erected across the wetlands from the Drava, with the following inscription: “To Joseph II, Roman Emperor, forever the Augustus, King of Hungary, and father of our homeland, who visited this city and province for the fourth time, from the Osijek Grammar School to His Majesty and Highness as its leader and father on the 3<sup>rd</sup> calends of May 1783. With our best wishes!” (Sršan, 1993: 103). In 1729, the statue of the Holy Trinity, the largest Baroque-style sculpture in Croatia, was erected in the Wine Square. Baroque-style wells in the shape of an even rectangle, made of red stone, were erected near the statue in 1761. The widow of General Maksimilijan Petraš, the Commander of the Osijek Fortress, erected the votive monument “so God may have mercy and fend off the plague that struck Osijek and the whole of Slavonija”, as evidenced by the saints decorating the wells: St. Sebastian, St. Roch, St. Rosalia and St. Catherine.

The latest studies have attributed the “Kužni pil” (Plague’s Pillar) to Styrian sculptor Johann Jakob Schoy and his workshop (Repanić-Braun, 2015: 139–154). The legend has it that the martens exterminated the city’s rats, ending the plague. The square’s name was changed several times over the years. In the late 18<sup>th</sup> century, it was called “Paradni trg” (The Parade Square), and then “Glavni trg” (Main Square) for a period of time. In 1898, it was renamed “Trg Franje Josipa” (Francis Joseph’s Square) in honour of the 50<sup>th</sup> anniversary of the Austrian Emperor’s and Croatian-Hungarian King’s rule. Between the two world wars, it was called “Trg svetog Trojstva” (Holy Trinity Square) and “Karađorđev trg” (Karađorđe’s Square). After World War II, it became known as “Partizanski trg” (Partisans’ Square). Following the international recognition of Croatia in 1992, the name “Trg svetog Trojstva” was restored. Street names really do provide a brilliant glimpse into the social and political developments in a space! Osijek City Archives reveal another forgotten detail about the Plague Pillar. In 1841, Karlo Schwarzleitner, Engineering Captain of the City Royal and Fortification Local Directorate in Osijek, measured Osijek’s meridian, and offered to the city authorities to set up a noon mark (sundial), engraved in stone, on an appropriate small base, on the south side of the statue, at his own cost. The city authorities accepted his offer, and the sundial was placed in the said location, but it disappeared sometime in the late 19<sup>th</sup> century, and no traces of it remain (Firinger, 2005: 209–215). Salt warehouse buildings were located on the northeast side of “Trg svetog Trojstva” since the beginning of the 18<sup>th</sup> century. Salt was sold there, and a salt trading office was located in the building. This part of the square was referred to as “Solarski trg” (Salt Trader Square). The Diocese of Bosnia, Đakovo and Srijem owned a plot of land in this section of the square. In 1879, the city authorities asked Bishop Josip Juraj Strossmayer to gift the land to the city to build a classic grammar school on. Bishop Strossmayer agreed, but under the condition that Slavonija and the Royal City of Osijek gift land to the Diocese to build a seminary, build a school for girls, and build the new grammar school building in an aesthetically pleasing and tasteful style, so that the city and its youth would take pride in it. “Trg svetog Trojstva” and “Trg Jurja Križanića” (Juraj Križanić Square) are linked toward the west by the street formerly called “Patkina ulica” (Duck Street), whose present-day name is “Ulica Josipa Bösendorfera”. The latter square, triangular in shape, is dominated by the yellow St. Michael the Archangel Parish Church. This square’s name changed over time as well. It was once called “Crkveni trg” (Church Square), followed by “Jezuitski trg” (Jesuits’ Square). It has borne its present name since 1946. On 31 July 1725, the Jesuits laid the foundation stone for the new church dedicated to the victor and defender, St. Michael the Archangel, in the western section of the foundations of Kasim Pasha’s tomb and mosque. The new church was designed as a single-nave church with two towers on its facade, which is divided into five planes: the two towers, and a characteristic Baroque-style three-piece gable. The style of the church follows the postulates of Austrian Baroque and is an example of “Fenstergiebelfassade”, which means that its windows, divided between two floors, break up the plane of the facade. The Jesuit chronicles titled “Ljetopis osječke misije ili družbe Isusove” (The Chronicles of the Osijek Mission or Society of Jesus), started at the end of school year 1763/64, and kept until 1771, make a note of the fact that a military chaplain, a Jesuit by the name of Gašpar Dirik, arrived with the soldiers, and that the Jesuits took care of the soldiers, the sick and the wounded. The Jesuits had an advantage over the Franciscans because the central government recognised their official capacity and paid them from the state budget. The first bell for the Church of St. Michael, weighing 120 kg and donated by noble Mihael Pejačević, was cast in Graz in 1750, and dedicated to St. Michael the Archangel. In addition to a depiction of the saint, the bell was decorated with the Pejačević family crest. The smallest bell weighed 60 kg and was cast in Buda, while the largest bell, dedicated to the Assumption of the Blessed Virgin Mary and weighing 868 kg, was cast at the Ruepprecht Brothers workshop in Fünfkirchen (Pecs) (Živaković-Kerže, 2003: 12).



Jakov and Franjo Ksaver Pejačević, both prominent members of the Jesuit order, helped equip the church, and Marko Aleksandar Pejačević, probably fulfilling the wish of his father Jakov or his brother Franjo Ksaver, financed the construction of the auxiliary altar of the Holy Cross at the Church of St. Michael, adorned with the images of Our Lady of Sorrows and St. John the Apostle. The last altar is decorated with their family crest. Interestingly, due to its specific chromaticity, this altar, erected between 1733 and 1740, was known as “The Black Altar”. The Church was fully completed in 1768. Ever since then, masses and sermons were regularly served at 7:00 am in Croatian, and at 8:30 in German, usually for soldiers. A solemn parish “Missa Cantata” was served at 10:00 am, and an evening mass was served at 5:00 pm. The Chronicles from 1782 report that “an announcement was made from the cathedra of the Inner Town’s Parish Church that no woman of any status is allowed to enter the church wearing ‘Amazonian attire’ (riding clothes) at His Majesty’s orders. Ladies and gentlemen were also asked not to bring small dogs into the Church” (Sršan 1993: 98). The statue of St. John of Nepomuk, the patron saint of everyone living and working near a body of water, is located in the centre of the square in front of the Church. On the north side of “Trg Jurja Križanića”, next to the parish church, the Jesuits opened the First Jesuit Classic Grammar School in their residence on 23 March 1729. When the Jesuit order was abolished in 1773, their monastery was converted into a barracks. The fourth square in the Inner Town, named after Vatroslav Lisinski, held a promenade. The name “Promenade” is mentioned for the first time on an 1893 map, and then again in 1912, when the Croatian term “šetalište” is mentioned as well (Lončar Vicković et al. 2013). The “Proviant-Kasserne” (Provision Barracks) was built in this square in the second half of the 18<sup>th</sup> century. Today this building houses the Jesuit Grammar School. A military flour depot, whose building had been occupied by Caritas for a time in the most recent history, was located next to the barracks. Many have likely noticed that the brown HRK 200 banknote, bearing the portrait of Stjepan Radić on the front, also bears the image of the General Command building, with “Trg svetog Trojstva” and a plan of the Inner Town in front of it. This fact constructs an entirely different relationship with reality and with the spaces of imagination. The square, as an urban space, thus conceptualises an appropriation in order to be experienced and understood. Its public nature is defined by encounters, facings and communication, often transforming it into a place where problems are presented transparently and strongly. This modern-age banknote, whose semantics refers to the space of the Inner Town, is therefore understood as an invitation to characterize the Square as the concept of a place open to everyone even in the 21<sup>st</sup> century.

### 3. CONCLUSION: MEMORY CONQUERED BY HISTORY

When the Habsburgs established their government in Osijek, they immediately issued the authorizations for annual and weekly fairs, as evidenced by the Royal Charter dated 24 March 1809. The Upper and the Inner Town had the right to hold annual fairs, and the Inner Town in particular was busy at the time of the fairs. Horses, oxen, pigs, raw uncured hides of animals both domesticated and wild, grain, spices, canvas, wine, fish, lumber, boats and rafts were traded. Turkish hide was the most traded product, and among agricultural projects, schnaps held the first place (Mažuran, 1996: 36–54). Fairs took place on St. George’s Day (23 April) and St. Elijah’s Day (20 July) at the square in the Inner Town. Traders from Southern Hungary, Bačka and Banat attended the annual fairs, where cattle were traded, among other things, and traders also arrived from the areas under Ottoman control, offering merchandise from the East. “Bacon traders from Szeged, cloth traders from Romania, known as ‘županjari’, boot traders from Bonyhád, Turks from Bosnia, and all craftsmen from the plains of Slavonija, all the way from Požega to Zemun”, arrived in substantial numbers (Osijek Historical Archives, 1844). Fairs were well-known meeting places of traders, craftsmen, innkeepers and travellers. They lasted for a week, starting on the Monday of the week when they were taking place.

Weekly fairs in the Inner Town were held on Wednesdays and Saturdays. Proceeds from the fairs were one of the most important incomes of the town budget. Since 1812, the taxes collected by the town authorities included “travarina” (tax levied for cattle grazing on pastures), taxes levied on vegetable farmers, taxes levied on the stands at the fair, and bridge toll for two small bridges people had to cross to reach the area where the fair was held (Vitek, 2004: 176). The military authorities erected a pontoon ferry on the Drava to take travellers from Vodena vrata (Water Gate) to Krunska utvrda (Crown Fort). The ferry had the ability to open to let ships, “šajka” wooden warships, rafts, boats and watermills through. A water cistern was built on the right and the left banks, and there was a wooden shack on the left bank where the bridge office, helmed by the bridge captain, was located. Captain Dobitzer held this office for a long time. Customs duties were collected for merchandise, cattle, wine and everything else people took to the fairs. The taxes and surtaxes were very high, and many citizens of Osijek often complained to the Royal Chamber and to the Queen herself, asking them to lower or abolish the taxes (Bösendorfer, 1948: 262). There is an interesting story recorded in the Chronicles on 25 November 1851 about an occasion when Ban (Viceroy) Jelačić visited Tvrđa and, arriving at the Square, saw a great mass of people gathered in front of the City Hall, waiting for him. The Viceroy dismounted and proceeded on foot to meet the Great County Prefect Petar Pejačević. He stopped in particular in front of a group of school students, who had broken out the grammar school flag and greeted the Viceroy with cheers, and a group of about fifty white-clad girls, who showered him with flowers. The Viceroy then entered the building and came out to the balcony soon after to deliver a speech for the youngsters and other citizens in the language of Slavonija: “My dear gentlemen, my dear brothers! A house is easy to demolish, but difficult to build. I have recently travelled all over Croatia and Dalmatia, and everywhere I came, I met true patriots. I would have never hoped to see our language do so well in Dalmatia, where Italian was widespread. But, I have to tell you one thing, my gentlemen, my brothers! I am so sorry to see such great discord among the people in Osijek. We all know the old folk saying: ‘Unity comes from God, discord comes from the Evil One!’ We must all join forces and work for the common good. I cannot do it without your help. Please, be loyal to your Emperor, and be loyal to your homeland. Live in harmony and love each other: we are all sons of one God, and we all have one Emperor and one homeland, and you have one Viceroy in me” (Sršan, 1993: 67). On the same day, at around 7:00 pm, all windows in Tvrđa were lit, 200 torches in a variety of colours were lit in the windows around the Square, and a banner was put up that said, “Long Live Viceroy Jelačić”. On the upper floor of the General Barracks, there was one letter in each of the 16 windows, each letter as big as the window itself. Three Croatian songs were performed, including “Prosto zrakom ptica leti” (A Bird Flies Freely through the Air), a popular patriotic song by Vatroslav Lisinski, member of the Croatian National Revival movement. On that day, the Inner Town lived a rhythm of entirely personal everyday life. Citizens rarely left the Inner Town, but many entered it to see the Viceroy and enjoy the festivities. Many came to do some shopping at one of the local shops or crafts, or to have a drink at one of the many taverns. To sum up, according to the interpretations of V. Gulin Zrnić and N. Škrbić Alempijević, “analysing the development of the squares, we take into consideration the material construction of the urban space, but also the way people inhabit this space, filling it with meaning, and seeing it as the representative face of the city, and the place where they live their everyday lives” (Gulin Zrnić; Škrbić Alempijević, 2019: 14). This public space thus has a strong dimension of social integration in addition to its symbolic character, because it is the foundation for the collective identity and the awareness in the citizens who use it as their meeting place.

**LITERATURE:**

1. Atkinson, D. (2008). Baština [Heritage]. In D. Atkinson (ed.), *Kulturna geografija: kritički rječnik ključnih pojmova* [Cultural Geography: A Critical Dictionary of Key Concepts] (p. 189–199). Čakovec: Disput.
2. Bösendorfer, J. (1948). Skela, kopitnica, tezgara i tanjara na Dravi. In *Osječki zbornik II/III* (p. 262–265). Osijek: Museum of Slavonija Osijek.
3. Brkljačić, M., Prlenda, S. (2006). Zašto pamćenje i sjećanje? [Why Memory and Remembrance?] In M. Brkljačić, S. Prlenda (ed.), *Kultura pamćenja i historija* [The Culture of Memory and History] (p. 7–18). Zagreb: Golden marketing-Tehnička knjiga.
4. Castells, M. (2000). *Uspon umreženog društva* [The Rise of the Network Society]. Zagreb: Golden marketing.
5. Firing, K. (2005). *Dr. Kamilo Firing: arhivist i povjesničar* [Kamilo Firing, PhD: Archivist and Historian]. Osijek: Museum of Slavonija, Osijek State Archives.
6. Foucault, M. (2008). O drugim prostorima [Of Other Spaces]. In T. Domes (ed.), *Operacija Grad: Priručnik za život u neoliberalnoj stvarnosti* [Operation City: A Handbook for Life in Neoliberal Reality] (p. 30–39). Zagreb: Alliance for the Centre for Independent Culture and Youth.
7. Gulin Zrnić, V. (2006). Antropološka istraživanja grada. [Anthropological Studies of a City]. In S. M. Low (ed.) *Promišljanje grada: studije iz nove urbane antropologije*. [Thoughts About the City: Studies From New Urban Anthropology] (p. 7–15). Zagreb: Naklada Jesenski i Turk.
8. Gulin Zrnić, V., Škrbić Alempijević, N. (2019). *Grad kao susret: etnografije zagrebačkih trgova* [The City as a Meeting: Ethnographies of Zagreb's Squares]. Zagreb: Croatian Ethnological Society, Institute of Ethnology and Folklore Research.
9. Halprin, L. (1974). *Gradovi* [Cities]. Beograd: Građevinska knjiga.
10. Hubbard, P. (2008). Prostor/mjesto [Space/Place]. In D. Atkinson (ed.), *Kulturna geografija: kritički rječnik ključnih pojmova* [Cultural Geography: A Critical Dictionary of Key Concepts] (p. 71–79). Čakovec: Disput.
11. Lefebvre, H. (2008). Pravo na grad [The Right to the City]. In T. Domes (ed.), *Operacija Grad: Priručnik za život u neoliberalnoj stvarnosti* [Operation City: A Handbook for Life in Neoliberal Reality] (p. 16–29). Zagreb: Alliance for the Centre for Independent Culture and Youth.
12. Lončar Vicković, S., Jurković, Ž., Stober, D. (2013). Trg Vatroslava Lisinskog u osječkoj Tvrđi – povijesni i prostorni razvoj [Vatroslav Lisinski Square in Osijek's Tvrđa – Historical and Spatial Development]. In *e-GFOS* (p. 47–56). Osijek: Faculty of Architecture Osijek.
13. Low, S. M. (2006). Uvod: teorijsko promišljanje grada. [Introduction: Theoretical Thoughts about the City]. In S. M. Low (ed.) *Promišljanje grada: studije iz nove urbane antropologije*. [Thoughts About the City: Studies From New Urban Anthropology] (p. 17–58). Zagreb: Naklada Jesenski i Turk.
14. Mažuran, I. (1996). *Od turskog do suvremenog Osijeka* [From Turkish to Modern Osijek]. Osijek, Zagreb: Croatian Academy of Sciences and Arts, Institute of Scientific Research, City Council, Školska knjiga.
15. Mesić, H. (2019) *Baštinska kultura u pamćenju grada*. [Heritage Culture in the Memory of a City]. Zagreb: Naklada Ljevak.
16. Mumford, L. (2010). *Kultura gradova* [The Culture of Cities]. Novi sad: Mediterran Publishing.
17. Najcer Sabljak, J. (2013). *Likovna baština obitelji Pejačević* [The Visual Art Legacy of the Pejačević Family]. Osijek: Visual Arts Gallery.
18. Plevnik, B. (1987). *Stari Osijek* [Old Osijek]. Osijek: IC Revija.

19. Pušić, Lj. (2014). Prolegomena za čitanje tipologije grada Maksa Vebera. [Prolegomena to Read Max Weber's Typology of the City]. In M. Veber, *Grad: Nelegitimna vlast: Tipologija gradova* [City: Illegitimate Authority: Typology of Cities] (p. 9–19). Novi Sad: Mediterran Publishing.
20. Repanić-Braun, M. (2015). Hoc protegente securā stat inclita urbs Esseck. On the Commission Circumstances and Authorship of the Plague Column in Osijek. In *Acta historiae artis Slovenica* (p. 139–154). Ljubljana: AHAS, France Stele Institute of Art History ZRC SAZU.
21. Sablić Tomić, H. (2022). *U osječkom Nutarnjem gradu* [In Osijek's Inner Town]. Zagreb, Osijek: Croatian Academy of Sciences and Arts, Academy of Arts and Culture of the Josip Juraj Strossmayer University in Osijek, Osijek-Baranja County, DG German Community – Provincial Association of Danube Swabians in Croatia, Osijek.
22. Šarinić, J., Čaldarović, O. (2015). *Suvremena sociologija grada: od nove urbane sociologije prema sociologiji urbanog* [Modern City Sociology: From New Urban Sociology to Sociology of the Urban]. Zagreb: Naklada Jesenski i Turk, Croatian Sociological Association.
23. Sršan, S. (1993). *Osječki ljetopisi 1686 – 1945* [Chronicles of Osijek 1686 – 1945]. Osijek: Osijek Historical Archives.
24. Vitek, D. (2004). Pravni položaj Osijeka u XVIII. stoljeću [The legal position of Osijek in the 18<sup>th</sup> century]. In *Scrinia Slavonica: godišnjak Podružnice za povijest Slavonije, Srijema i Baranje Hrvatskog instituta za povijest* [Scrinia Slavonica. Yearbook of the Branch for the History of Slavonia, Srijem and Baranja of the Croatian Institute of History] (p. 99–114). Slavonski Brod: Croatian Institute of History – Branch for the History of Slavonia, Srijem and Baranja.
25. Živaković-Kerže, Z. (2003). *Župna crkva sv. Mihaela arkandela u Osijeku* [Parish Church of St. Michael the Archangel in Osijek]. Osijek: Grafika.

## A STUDY ON RELATIONSHIP BETWEEN MBTI PERSONALITY TENDENCY AND HOLLAND PERSONALITY TYPE

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### ABSTRACT

*The purpose of this study was to derive meaningful basic data in establishing individualized guidance strategies for college students by analyzing the relationship between student's personality type, especially MBTI's personality tendency, Holland professional personality type. First, as a result of analyzing the relationship between the Holland personality type and MBTI personality tendency of college students, it was analyzed that extroverted students had more social personality type than introverted students, while introverted students scored higher than extroverted students in conventional personality type. In addition, in terms of taking in information, the intuition(N) student group scored higher than the sensing(S) student group in the investigative personality type and the artistic personality type, and the sensing(S) student group scored higher than the intuition(N) student group in the conventional personality type. In terms of making decisions, there were significant differences in all Holland personality types except for corporate types*

**Keywords:** MBTI, Holland test, personality tendency, professional personality

### 1. INTRODUCTION

The time of college corresponds to the genital stage in Freud's psychological sexual stage, and the late adolescence in Erikson's psychological development stage. It has two important tasks, study and employment. In addition, it is time to develop an integrated approach to one's personality, ability, and interest through many activities such as self-awareness formation, rational relationships, and career exploration through self-reflection. To do this, first, they need to set their own values and career goals through the process of exploring what their strengths and weaknesses are, where they are deeply interested, and what they are good at. Therefore, many researchers have been working on maximizing the effect of learning and career guidance by subdividing learners' psychological characteristics and learning guidance strategies for each personality type. Based on these research results, instructors were able to find specific ways to manage students' academic achievement and guide them toward employment success according to their psychological characteristics, and implement student guidance activities based on this. Many of the previous studies related to personality types (Byung-yeon Ko, Hee-kyun Oh, 2009; Jong-gun Song, 1994; Sun-ah Lee, Su-seung Bae, 2020; Joo-sung Lee, Won-chang Jang, Chul Kim, 2012; Kyung-yeon Jung, 1993; Furqurean, Meisgeier, 1988; Irani, Telg, Scherler, Harrington, 2003; Lathey, 1991; O'Brien, Bernold, Akroyd, 1998; Tobyak, Hearn) found it;s relationship with between an individual's academic achievement and they have emphasized that the characteristics of each student's personality type should be reflected in specific teaching and learning activities in order to improve academic performance. Career guidance or learning guidance for students needs to reflect their personality characteristics and set individualized and differentiated strategies according to thier individual psychological situations. Therefore, this study aims to draw out meaningful basic datas in establishing individualized guidance strategies for college students by analyzing the relationship between learner's personality type, especially MBTI's personality tendency, Holland professional personality type, and academic achievement.

The research questions are as follows:

- 1) Relationship between Holland personality type and MBTI personality tendency of college students
- 2) The relationship between MBTI personality tendency and academic achievement of college students

## 2. RESEARCH METHOD

### 2.1. Subjects of Study

The subjects of this study were 543 first grade students at H University in Korea. Their average age was 20.1 years (standard deviation 2.21), and their range was 19-27 years old. Initially, 657 students were surveyed, but 114 students who missed the response were excluded from the data analysis and there were 338 male (62.3%) and 205 female (37.7%) among 543 respondents. The proportion of students by major was 331 students(61%) in science and engineering and 212 students(39%) in humanities and social sciences.

*Table 1: Subjects of Study*

	Division	Number	%
Gender	Male	338	62.3
	Female	205	37.7
Major	Science & Technology	331	61
	Humanities Society	212	39
Total		543	100

### 2.2. Inspection tools

#### 2.2.1. MBTI Personality Tendency

MBTI personality type test tool designed by Myers and Briggs based on the psychological typology of Carl Jung, A Swiss psychoanalyst. MBTI is widely used in schools, workplaces and the military because it is easy and simple to implement. The examinee is classified into one of 16 psychological types by results based on four classification criteria: extroverted-inverted (E-I), sensing-intuition (S-N), thinking-feeling (T-F) and judging-perceiving (J-P).

#### 2.2.2. Holland's Occupational Personality Test

The Holland's Occupational Personality Type Test used in this study was a personality-based occupational interest test. We can easily infer information about our career from this test result. (Changgyu Ahn, 2000). John Holland, an American career psychologist and professor at Johns Hopkins University, constructed career development theory and occupational interest tests by relating personality traits to career, and developed a theory of occupational interest. He analyzed the occupational characteristics, the characteristics and interests of the workers in a certain field, and classified six types of people's job interest. In other words, they were presented as a realistic (R), an investigative (I), an artistic (A), a social (S), an enterprising (E), and a conventional (C). The test tool used in this study was the Holland's Occupational Personality Type Test (Ahn Chang-gyu, Ahn Hyun, 2007), and the Cronbach  $\alpha$  of the test tool was .827, and the test result was used as the occupational personality type with the highest score.

### 2.3. Processing of data

In order to find out the relationship between college students' MBTI personality tendency and academic performance, data were processed as follows. Through the independent sample t-test, the relationship between the four personality tendencies in MBTI and Holland personality types. For the above data processing, the SPSS (ver.21.0) statistical program was used.

It was analyzed that extroverted students had more social personality type than introverted students, while introverted students scored higher than extroverted students in conventional personality type. In addition, in terms of taking in information, the intuition(N) student group scored higher than the sensing(S) student group in the investigative personality type and the artistic personality type, and the sensing(S) student group scored higher than the intuition(N) student group in the conventional personality type. In terms of making decisions, there were significant differences in all Holland personality types except for corporate types.

### 3. RESULTS OF THE RESEARCH

#### 3.1. Relationship between Holland personality type and MBTI personality tendency of college students

To find out the relationship between Holland's personality type and MBTI personality tendency of college students, we compared and analyzed how the direction of energy flow is related to Holland personality type according to the tendency of extroverted(E) and introverted(I). For this, it was investigated whether there was any difference in Holland personality type scores according to personality tendency by conducting an independent sample t-test,

##### 3.1.1. The Relationship between Personality Tendency and Holland Personality Type in outward or inward focus

Table 2: Analysis of differences in Holland personality type according to personality tendencies of college students in terms of energy direction

Holland Personality Type	Personality Tendency	N	M	SD	t
Realistic	E	234	48.662	23.23	-1.290
	I	309	51.19	22.62	
Investigative	E	234	43.23	19.27	1.055
	I	309	41.50	18.51	
Artistic	E	234	47.17	20.62	5.306
	I	309	37.85	19.79	
Social	E	234	64.14	18.30	11.325***
	I	309	47.26	16.28	
Enterprising	E	234	62.21	18.74	13.189
	I	309	41.52	17.21	
Conventional	E	234	48.38	17.03	-2.508**
	I	309	52.05	16.73	

\*\*  $p < .01$ , \*\*\*  $p < .001$

Independent sample t-test was conducted to find out whether there was any difference in Holland personality type between two groups of introverted and extroverted students. The results are shown in Table 2. It shows that the meaningful difference between introverted and extroverted student groups lies in social type and conventional type. In other words, as a result of the t-test,  $t=11.325$  ( $<.001$ ) was significant at the significance level of 0.1% in the social type, and  $t=-2.508$  ( $<.01$ ) in the conventional type, which was significant at the significance level of 1%.. In these results, it was found that extroverted students had more social personality types than introverted students. On the other hand, in the conventional type, it was analyzed that introverted students showed higher scores than extroverted students.

### 3.1.2. Relationship between Personality Tendency and Holland Personality Type in terms of Taking in Information

Table 3: Analysis of the differences in Holland personality types according to the personality tendencies of college students in terms of taking in information

Holland Personality Type	Personality Tendency	N	M	SD	t
Realistic	S	419	49.39	22.73	-1.258
	N	125	52.36	23.33	
Investigative	S	419	40.88	18.72	-3.044**
	N	125	46.67	18.65	
Artistic	S	419	38.56	19.32	-6.860***
	N	125	53.04	21.10	
Social	S	419	54.03	18.27	-1.140
	N	125	56.24	21.53	
Enterprising	S	419	50.66	20.56	-.286
	N	125	50.05	21.13	
Conventional	S	419	52.94	16.40	6.571***
	N	125	42.12	16.06	

\*\*  $p < .01$ , \*\*\*  $p < .001$

<Table 3> shows the results of the independent sample t-test to find out the difference between the two opposing tendencies, sensing(S) and intuition(N) students, in terms of taking in information. There were significant differences in investigative type, art type and conventional type between the sensing(S) student group and the intuition(N) student group. According to <Table 3>, the intuition(N) student group was higher than the sensing(S) student group in the investigative type and art type ( $p < .01$ ,  $p < .001$ ). In the conventional type, the sensing(S) student group was higher than the intuition(N) student group. On the other hand, in the remaining Holland personality types, realistic type, the social type, and Enterprising type, there were slight differences between the two groups, but the difference was not significant ( $p > .05$ ).

### 3.1.3. Relationship between Personality Tendency and Holland Personality Type in terms of making decisions

Table 4: Analysis of the differences in Holland personality types according to the personality tendencies of college students in terms of making decisions.

Holland Personality Type	Personality Tendency	N	M	SD	t
Realistic	T	362	51.56	22.94	2.139*
	F	182	47.12	22.53	
Investigative	T	362	43.78	18.63	2.742**
	F	182	39.08	18.93	
Artistic	T	362	38.08	20.12	-4.685***
	F	182	47.67	20.51	
Social	T	362	50.82	18.10	-6.544***
	F	182	61.90	18.87	
Enterprising	T	362	51.22	20.86	1.118
	F	182	49.14	20.28	
Conventional	T	362	52.79	17.16	4.786***
	F	182	45.80	15.50	

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$



<Table 4> shows the results of the independent sample t-test to find out whether there is any difference in the Holland personality type between two opposing tendencies, thinking(T) and feeling(F), in terms of making decisions. Table 6 shows that there are significant differences in all Holland personality types except for enterprising types. In other words, in realistic type, investigative type, and conventional type, thinking(T) students are significantly higher than Feeling(F) students. In other words, the average score of feeling(F) students' realistic type was 51.56 (SD=22.94), and the average score of thinking (T) students was 47.12 (SD=22.53). As a result of the t-test,  $t=2.13$  ( $<.05$ ) was found to be significant at the significance level of 5%. In addition, in the investigative type, thinking(T) students were significantly higher than feeling(F) students. In other words, the average of feeling(F) students' investigative type was 39.08 (SD=18.93), and the average of thinking(T) students was 43.78 (SD=18.63). As a result of the t-test,  $t=-2.74$  ( $<.01$ ) was found to be significant at the significance level of 1%. In Conventional type, thinking(T) students ( $M=52.79$ ,  $SD=17.16$ ) were significantly higher than feeling(F) students ( $M=45.80$ ,  $SD=15.50$ ) ( $t=4.78$ ,  $p<.001$ ). In contrast, it was analyzed that the average of feeling (F) students was significantly higher than that of thinking (T) students in art type and social type. In other words, the average of feeling(F) students' art types was 47.67 (SD=20.51), and the average of thinking(T) students was 38.99 (SD=20.12). As a result of the t-test for this,  $t=-4.68$  ( $<.001$ ) was found to be significant at the significance level of 0.1%. Finally, it was analyzed that the average (61.90, SD=18.87) of feeling(F) students was much higher than the average ( $M=50.82$ ,  $SD=18.10$ ) of thinking(T) students with a significance level of 0.1%.

#### 3.1.4. Relationship between Personality Tendency and Holland Personality Type in terms of approach to life

Table 5: Analysis of the differences in Holland personality types according to the personality tendencies of college students in terms of approach to life

Holland Personality Type	Personality Tendency	N	M	SD	T
Realistic	J	236	49.29	22.92	-.696
	P	308	50.67	22.87	
Investigative	J	236	46.96	18.27	5.284***
	P	308	38.56	18.49	
Artistic	J	236	40.38	21.35	-1.478
	P	308	43.04	20.04	
Social	J	236	55.96	19.57	1.507
	P	308	53.45	18.65	
Enterprising	J	236	51.77	20.04	1.237
	P	308	49.57	21.13	
Conventional	J	236	57.71	16.23	9.354***
	P	308	44.89	15.30	

\*\*\*  $p < .001$

From <Table 5>, it was found that the judging(J) students were significantly higher in the investigative type and conventional type than the perceiving(P) students. In other words, t-test was performed on the average of judging(J) students and perceiving(P) students for the investigative type. The result showed  $t=5.28$  ( $<.001$ ), and the t-test result for the conventional type was  $t=9.35$  ( $<.001$ ), which were significant at the significance level of 0.1%.

On the other hand, perceiving(P) students were slightly higher in realistic type, artistic type, and social type, and judging(J) students were slightly higher in enterprising type, but these differences were found to be not significant ( $p>.05$ ).

#### 4. DISCUSSION

The purpose of this study was to derive meaningful basic data for setting up individualized instructional strategies for college students by analyzing the relationship between the personality type of college students, especially the personality tendency of MBTI and Holland's professional personality type, and academic achievement. First, as a result of analyzing the relationship between the Holland personality type and MBTI personality tendency of college students, it was analyzed that extroverted students had more social personality type than introverted students, while introverted students scored higher than extroverted students in conventional personality type. This is the result of a combination of the characteristics of conventional personality, precise, tight-knit, detailed and not liking change, and introverted(I) personality tendencies. In addition, it is a natural phenomenon that extroverted (E) students who are sociable, active and maintain a wide range of interpersonal relationships have a high personality of social type who likes to get along with people, are kind, help and serve others. That is, the extrovert (E) personality tendency and the social type personality type have a lot of common denominators. In addition, in terms of taking in information, the intuition(N) student group scored higher than the sensing(S) student group in the investigative personality type and the artistic personality type. And the sensing(S) student group scored higher than the intuition(N) student group in the conventional personality type. This is probably because the characteristics of the intuitive(N) type which are future-oriented, make a leap forward and pursue speedy work and the characteristics of the conventional type which pursue accuracy and detail share a common part. In terms of making decisions, there were significant differences in all Holland personality types except for corporate types. In the realistic, investigative, and conventional types, thinking(T) student group was significantly higher than feeling(F) student group. On the other hand, the average of feeling(F) student group was analyzed to be significantly higher than the average of thinking(T) student group in the artistic and social types. Thinking(T) type which pursues logical, analytical and objective judgment was closer to the characteristics of the realistic type, the investigative type and conventional type. On the other hand, feeling(F) type which has a lot of interest in relationships with people and strong situational tendencies was closer to the characteristics of social type and artistic type. In terms of approach to life, the judging(J) students were significantly higher than the perceiving(P) students in the investigative type and the conventional type. This may be because judging(J) type with clear purpose and direction, punctuality and systematic traits has common characteristics with logical, analytical and rational investigative type and conventional type which pursues thorough and detailed planning. Based on these results of analysis, we could confirm that MBTI and Holland personality types are not mutually exclusive but have complementary functions and are interrelated with each other.

#### LITERATURE:

1. Byung-yeon Ko, Hee-kyun Oh (2009). The Correlation between Personality Type and Science Learning Anxiety and Academic Performance of Middle School Students. *Journal of Science Education Research*, 33(1).
2. Changgyu Ahn (2000). The Relationship between Career Education and Individual Characteristics. *Career Education Research*, 12(1), 25-50.
3. Furqurean, J., Meisgeier, C., Swank, P., & Murphy, E. (1988). Investigation the Relationship Between Academic Ability and Type Preference in Children. *Journal of Psychological Type*, 16, 38-41.

4. Hee-Young Kim (2002). A Study on the Opinions of Middle School Science Teachers, Students' Science Academic Achievement and Attitude Toward Textbooks and Classes by Level of the 7th Curriculum. Master's Thesis, Graduate School of Education, Ewha Womans University.
5. Hyeon-suk Kim (2002). A Study on the Relationship between Personality Type, Self-regulated Learning Ability and Academic Achievement. Daegu University. Master's Thesis.
6. Hye-kyung Kim (1996). Relationship between Personality Type, Learning skills, and Academic Achievement. Hankuk University of Foreign Studies. Master's Thesis
7. Irani, T., Telg, R., Scherler, C., & Harrington, M. (2003). Personality Type and Its Relationship to Distance Education Students' Course Perceptions and Performance. *Quarterly Review of Distance Education*, 4(4), Winter, 445-453.
8. Jae-yong, Park and Woo-sung, Park (2005). An Empirical Study on the Relationship between Personality Type and Academic Achievement. Korean Academy of Personnel Office Sciences.
9. Jeong-Suk Shin (1998). A Study on the Relationship between Personality Type and Academic Achievement of Elementary School Students. Kangwon National University. Master's thesis.
10. Jong-gun Song (1994). .A Study on Personality types and Academic Achievement of Adolescents. Sogang University. Master's Thesis.
11. Joo-sung Lee, Won-chang Jang, Chul Kim, 2012 (2012). The Effect of Personality Type and Academic Self-efficacy on Academic Achievement in Business Administration. *Commercial Education Research*, 26(2).
12. Jung Huh (1991). A Study on the Relationship between the Personality and Academic Achievement of High School Students in Korea. Kyunghee University. Master's thesis,
13. Kyung-yeon Jung (1993). A Study on the Relationship between the MBTI Preference, Intelligence and Academic Achievement of Elementary School Students in the C-MBTI. Pusan National University. Master's thesis.
14. Lathey, J. (1991). Temperament Style as a Predictor of Academic Achievement in Early Adolescence, *Journal of Psychological Tape*, 22.
15. Min-Jung Kim (2002). The Relationship between Personality Type and Academic Achievement of High School Students. Gangneung University. Master's thesis.
16. O'Brien, T. P., Bernold, L. E. & Akroyd, D. (1998). Myers□Briggs type indicator and academic achievement in engineering education. *International Journal of Engineering Education*, 14(5), 311□315.
17. Se-hee Park (2005). A Study on the Relationship between MBTI Personality Type, Mathematics Academic Achievement and Mathematics Preference. Ewha Womans University. Master's Thesis.
18. Sun-ah Lee, Su-seung Bae (2020). A Study on Learning Method Search according to MBTI Personality Type and Academic Achievement of High School Students. *Education Method Research*, 32(1).
19. Tobyak, J. E. , Hearn, R. E. , & Wells, D. H. (1990). Jungian Type and California Achivement Test Performance in junior high school students at high risk for dropout, *Journal of Psychological Type*, 19, 13-20.

# ENERGY EFFICIENCY AND OPPORTUNITIES ARE ACHIEVABLE IN THE TRANSITION TO CLEAN ENERGY

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## ABSTRACT

*Energy and ways to obtain them is a topic that has been a must-have been devoted to economies for many years. The increase in energy consumption has been extremely linked to economic growth, which indicates a very close relationship between total energy consumption and overall global GDP growth. We are currently in a situation where reducing energy consumption is becoming a necessity given the global state of the environment. Resources for energy production are declining and their need is increasing every day, it is necessary to look for new resources, those that will not burden the environment. The UN State of the Environment report states that over the next 40 years, the world will face a demand for the construction of new commercial and residential buildings and housing of more than 2.3 billion square meters. The reason is population growth. By 2050, the world's population is expected to grow to 11 billion, with the majority living in cities, up to 6.5 billion. The growth of the population in cities, along with urbanization, brings several problems. It is the urban population that will feel more intensely about climate change and will be exposed to the risks associated with high energy intensity. The transition to a zero-carbon economy that is highly energy-efficient and largely based on renewable energy sources requires a rapid transition to clean energy, which will ensure sustainability, security of supply, and affordability of energy, as well as the necessary energy infrastructure. In this paper, we address the need for energy savings in relation to the role of cities in this process.*

**Keywords:** *Energy consumption, Innovation, Population growth, Renewable resources*

## 1. INTRODUCTION

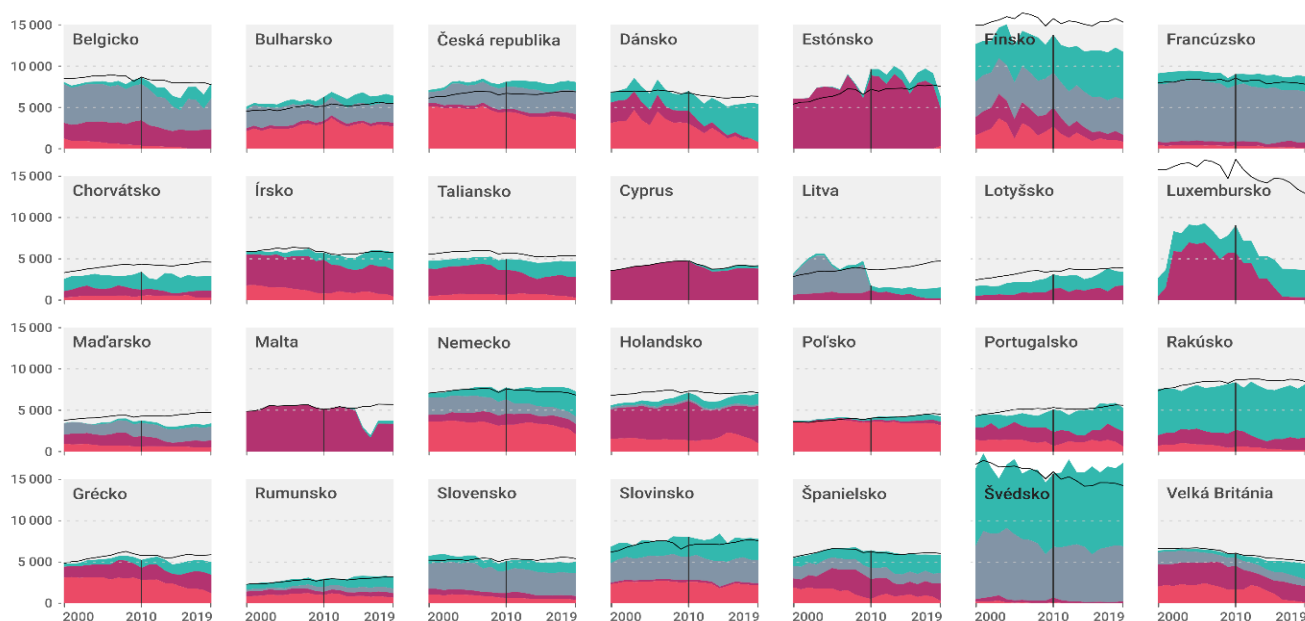
Energy is an essential factor for the economy. Over the last 200 years, its consumption has gradually increased along with the industry development. In the beginning, the most used energy was made from wood, gradually it was produced from new fuel sources. The increase in energy consumption has been extremely linked to economic growth, which indicates a very close relationship between total energy consumption and overall world GDP growth (Chontanawat, et. al., 2006, Hou, 2009, Acaravci, 2010, Cicea – Pirlogea, 2011). The rate of growth of global primary energy consumption has been remarkably stable since 1850 (2.4%/year  $\pm$  0.08%) and shows no sign of slowing down (Jarvis, Leedal, Hewitt, 2012). Hence, if energy demand reduction is to be measured as a departure from this 150-year trend, there appears to be little sign of it yet at the global level. However, since primary energy consumption (E) has grown more slowly than gross domestic product (GDP) (Y), there has been a steady decline in global energy intensity (E/Y) and hence a steady increase in energy productivity (Y/E), with the precise trend depending upon how these variables are measured. Aggregate energy consumption is commonly expressed as the product of population (P), per capita wealth (Y/P), and energy intensity (E/Y), but many factors contribute to these aggregate ratios, and are more disaggregated breakdowns are required to understand their trends. The IEA estimates that global energy intensity declined by 1.3%/year between 1990 and 2000, but this slowed to 0.4%/year after 2000 as a consequence of emerging economies (notably China) accounting for a larger proportion of global GDP. These economies are more energy-intensive than the global average, but they are also reducing their energy intensity (and growing their economies) at a more rapid rate (Sorrel, 2015).

## 2. THEORETICAL BACKGROUND

Just as there is a close relationship between energy consumption and economic growth, several authors have confirmed the relationship between economic growth and climate change. According to many studies, it is possible to improve energy efficiency by 10 to 30% over the next 20 to 30 years without increasing costs (Bédi, 2002, Lapin, 2003, Dufková, 2004). Already 20 years ago, several experts were convinced that higher savings could be achieved during this period. Such savings are feasible in all sectors of the economy using current knowledge and technology. In the long run, it will be possible to move closer to a zero-emission economy by increasing energy efficiency (Čaboun, 2009, Faško et.al., 2009). Improving energy efficiency and reducing energy demand make a dominant contribution to tackling global climate change (Sorrel, 2015). However, as wealth grows, so does energy consumption. Brown et. al., surveyed 220 countries over 24 years and found that, on average, every 1% increase in per capita wealth was associated with a 0.76% increase in energy consumption per capita. Csereklyei et al. (2016) analyzed 99 countries between 1971 and 2010 and found a comparable elasticity of around 0.7 - meaning that energy intensity is lower in richer countries and that on average a 1% increase in per capita income is associated with a decrease in energy intensity per capita by 0.3%. This result was derived from repeated cross-sectional analyzes of national data and suggests that per capita energy consumption associated with any given level of per capita income has not changed over four decades. The long-term decline in regional and global energy intensity is therefore due to countries becoming richer rather than producing a certain level of wealth with less energy. This, in turn, suggests that technological changes that have reduced energy intensity are strongly correlated with technological changes that have increased per capita wealth.

## 3. ENERGY EFFICIENCY AND ENERGY DEMAND REDUCTION TARGETS

Primary energy consumption fell by 4.5% in 2020, which is the first decline in energy consumption since 2009. Oil (-9.7%), which accounted for almost three-quarters of the decline, contributed to the decline. Consumption of all fuels decreased, with the exception of renewable energy sources (+ 9.7%) and water sources (+ 1.0%). Consumption fell in all regions, with the largest decline recorded in North America (-8.0%). Primary energy consumption in the European Union was decreased by -7.8% in 2020. The smallest decline was recorded in the Asia-Pacific region (-1.6%), thanks to growth in China (+ 2.1%), the only large country where energy consumption increased in 2020. In other regions, the decline in consumption ranged from -7.8% in South and Central America to -3.1% in the Middle East. The world's developing countries, led by China and India, now account for 61% of global energy consumption, with China's energy consumption now higher than total US and EU energy consumption combined. In the world, 61.3% of the electricity consumed is produced from fossil fuels. In developing countries, it is 68.2% and in developed countries, it is around 51.3%. Fossil fuels include coal, natural gas, and oil. The share of coal in electricity generation in the EU fell from 30.6% in 2000 to 14.5% in 2019. Of the EU countries, the highest share (74%) of coal in electricity generation in 2019 was Poland, the Czech Republic 42.6%. However, due to the relatively high production and consumption of electricity per person, the Czech Republic produces the most electricity per person from coal in the entire European Union - 3452 kWh per person (Poland produces 3152 kWh per person from coal). Only seven countries of the European Union have a share of coal in electricity production of more than 15%. Conversely, France has the lowest share of coal in electricity generation (generating more than 70% of electricity from nuclear power plants), Sweden (almost all energy is produced from nuclear and renewable sources - hydro and wind), Belgium (a combination of nuclear energy, renewables, and natural gas) and other smaller countries (Estonia, Cyprus, Lithuania, Latvia, Luxembourg, and Malta, but some of them produce most of their electricity from other fossil fuels).



Note:



*Figure 1: Development of electricity production per capita by sources of consumption  
(kWh/person/year)  
(Source: Ember, OSN)*

In 2022, coal consumption is set to grow further, which, according to the International Energy Agency (IEA), runs counter to the declared decarbonization targets. Coal combustion releases emissions, with coal-producing the most emissions in terms of energy obtained, natural gas releases only about half the amount of greenhouse gases per unit of energy produced compared to coal. The world's developing countries have increased their share of global emissions, with CO<sub>2</sub> emissions in 2020 accounting for 2/3 of all global CO<sub>2</sub> emissions, so 21,253.3 million tons. Developing countries in the world control 61% of total world energy consumption and 2/3 of all world CO<sub>2</sub> emissions. CO<sub>2</sub> emissions in the United States have fallen by around 1.45 billion metric tons from their peak in 2007 from 5,884.2 million metric tons to 4,432.2 million metric tons in 2020. EU CO<sub>2</sub> emissions have fallen by 1.03 billion metric tons from 3,579.3 million metric tons to 2,548.8 million metric tons in 2020. Improving energy efficiency and reducing energy demand is a means of mitigating climate impacts. Governments' attempts to reduce energy demand are being made in the 1970s when oil prices began to rise, and energy security concerns increased. The International Energy Agency (IEA) and other bodies are now placing increasing priority on reducing energy demand.

*Figure following on the next page*

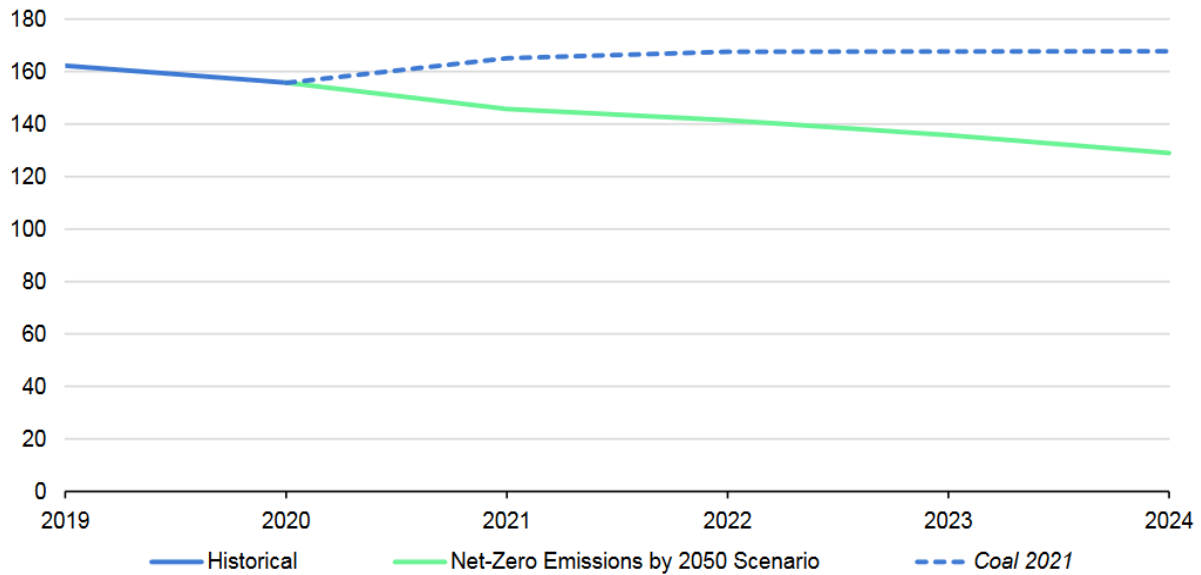


Figure 2: CO<sub>2</sub> emissions from coal in 2024 are expected to be well over 3 Gt higher than in the Net Zero Emissions by 2050 Scenario

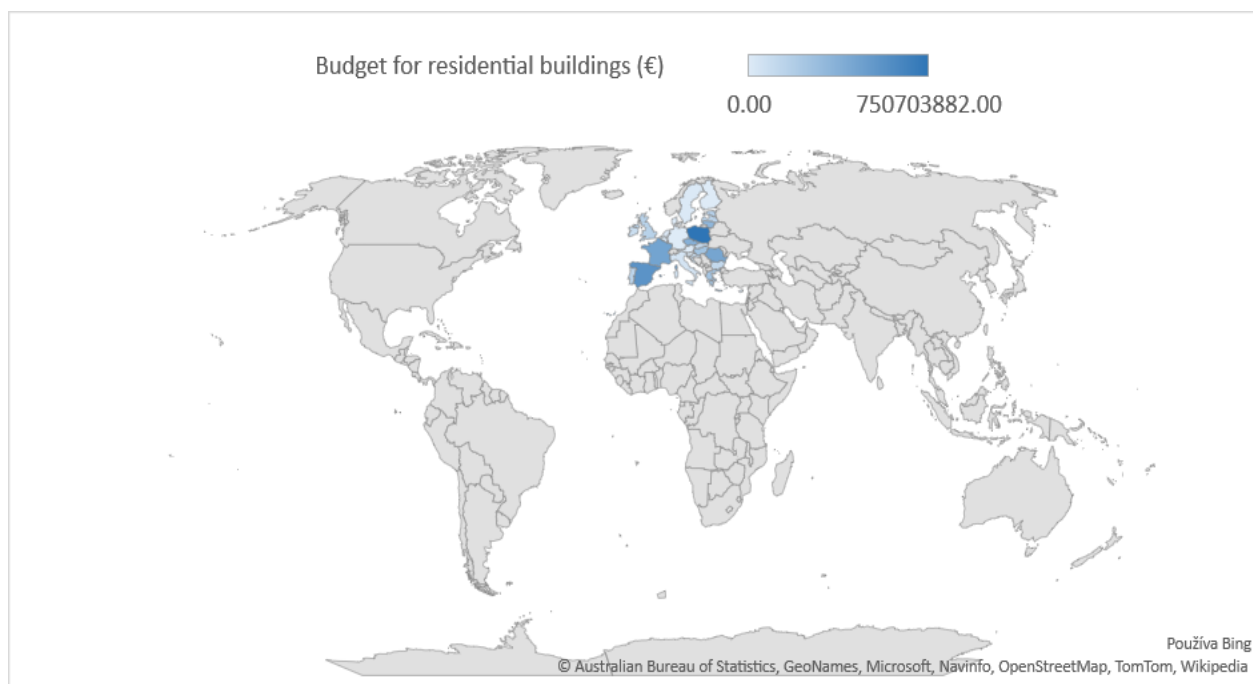
(Source: International Energy Agency. [www.iea.org](http://www.iea.org))

The situation will be even more serious as urban overheating and local climate change, intensive urbanization, and industrialization will raise the temperature in cities and create urban heat islands (UHIs). These are places where the overheating is up to 10 °C higher than the average temperature. Higher temperatures in cities affect the energy consumption needed for cooling and air conditioning, which affects the quality of the urban environment, urban health, and the ability to survive in them.

### 3.1. Buildings as entities to reduce energy consumption

The construction and building industry can contribute to better management of limited resources, and reduction of greenhouse gas emissions (especially CO<sub>2</sub>). For these reasons, it is necessary to use clean electricity for heating or cooling. It is also necessary to install energy-efficient heat pumps, set the heating correctly or automate controlled energy consumption. This should increase energy savings from 9% to 13% by 2030. Heating and hot water alone account for 79% of total final energy consumption in EU households. There are two ways to achieve the goal of increasing savings or completely renovating buildings. Both approaches will have to be economically feasible. Energy savings after building renovations are usually related to better insulation, better heating, and cooling systems, and better lighting. The European Commission has long-term goals (2050) to reduce energy demand and countries around the world have policies to achieve these goals. Already in 2007, the European Union set a target of 20% energy savings in 2020 in the Europe 2020 strategy (compared to 2007 levels). Directive 2010/31 / EU on the energy performance of buildings and Directive 2012/27 / EU on energy efficiency set targets to improve the energy performance of buildings in the European Union (EU), considering different climatic and local conditions. Directive 2010/31 / EU on the energy performance of buildings set out minimum requirements and a common framework for calculating energy performance. Following the review, Directive 2010/31 / EU and Directive 2012/27 / EU were amended in 2018 by Directive (EU) 2018/844. Directive 2018/844/EU amending Directive 2010/31/EU on the energy performance of buildings and Directive 2012/27 / EU on energy efficiency the main objective was to accelerate the cost-effective renovation of existing buildings and to promote smart technologies in buildings.

The amending directive was part of the clean energy package and complements energy efficiency legislation. In connection with these measures, cohesion policy in the countries of the European Union supported projects to increase the energy efficiency of public and residential buildings.



*Figure 3: Cohesion policy funding for energy efficiency of buildings 2014-2020 (residential buildings in €)*

(Source: <https://op.europa.eu/webpub/eca/special-reports/energy-efficiency-11-2020/sk/>)

EU countries must set optimal minimum energy performance requirements for buildings in the coming period. EU countries are developing long-term renovation strategies to support the renovation of residential and non-residential buildings to achieve a highly energy-efficient and decarbonized building stock by 2050 - energy efficiency for space heating, space cooling, hot water, ventilation, built-in lighting, and other building technical systems (reduction of greenhouse gas emissions by 80 to 95% by 2050 compared to 1990). Communication 2030 (COM (2014) 15 final) sets out the general modalities of the EU climate and energy framework for the years 2020 and 2030. The aim is to reduce greenhouse gas emissions by 40%, which requires an increase in the 2030 energy-saving rate by about 25%. In 2020, the Commission adopted a delegated act and an implementing act. Delegated Regulation (EU) 2020/2155 complements Directive 2010/31 / EU by establishing an optional common EU scheme for determining the level of intelligent readiness of buildings, which means it defines the smart preparedness indicator and a common methodology for its calculation. The methodology consists of calculating the value of the intelligent readiness of buildings or building units and deriving the degree of intelligent readiness of buildings or building units. Implementing Regulation (EU) 2020/2156 lays down the technical details concerning the implementation of the optional common EU scheme for determining the level of intelligent readiness of buildings. It covers, inter alia, the following aspects: accreditation and qualification of smart readiness indicator experts, issuance of smart readiness indicator certificate and conditions for its use, and testing of the smart readiness indicator scheme. Delegated Regulation (EU) 2020/2155 and Implementing Regulation (EU) 2020/2156 shall apply from 10 January 2021.



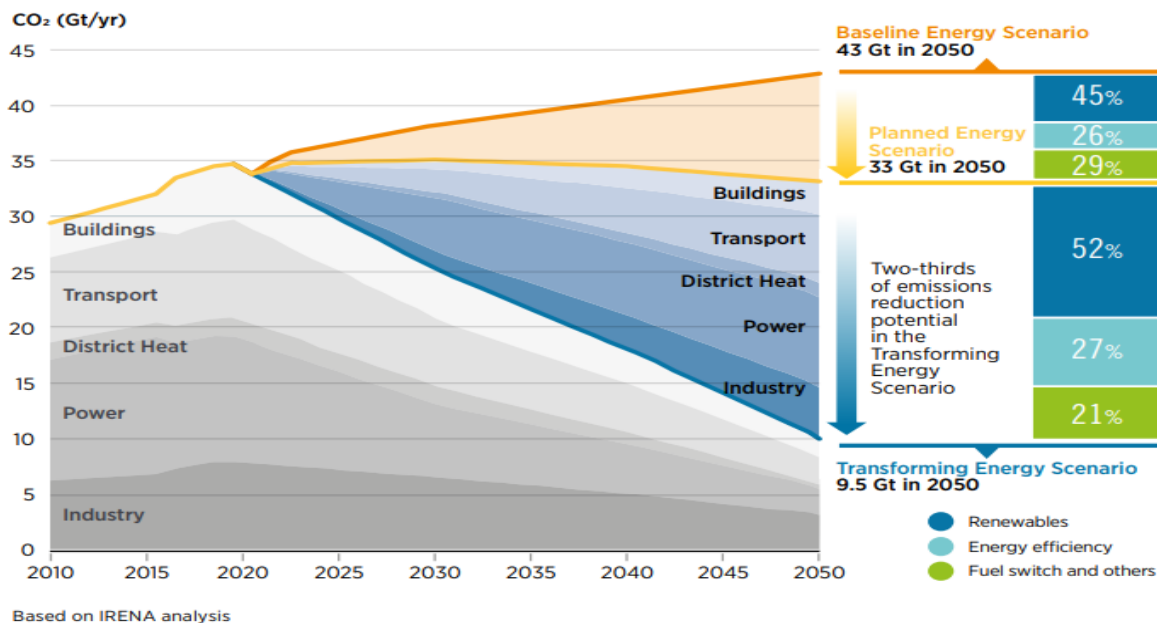


Figure 4: The bulk of emission reductions: Renewable and efficiency. (Energy-related CO<sub>2</sub>, emissions, 2010 – 2050)

(Source: Global Renewables Outlook: Energy transformation 2050)

#### 4. ENERGY EFFICIENCY OF BUILDINGS AND HOUSEHOLD ECONOMY: CASE OF SLOVAK REPUBLIC

Energy policy in the Slovak Republic has long been focused on reducing energy efficiency. Energy efficiency means using fewer energy inputs at the same level of economic activity or services. Investments in energy efficiency have a better economic and social return than investments in energy supply. Energy efficiency synergistically contributes to reducing the energy intensity of the economy, contributes to increasing energy security, reducing operating costs of energy companies, and savings of primary energy sources. Energy efficiency is cross-cutting in all dimensions of energy policy. Energy prices have been high for a long time, which has an impact on both businesses and households. However, the problem in reducing energy demand is the high costs associated with investing in new, greener facilities. Renewing the house in a sustainable way is important for 36% of the population of Slovakia. In Slovakia, the number of households that do not have the finances to shine and heat is increasing and falls into the category of energy-poor. Energy poverty can be broadly defined as a combination of low levels of energy efficiency in housing, high energy bills, and low incomes. All these circumstances can have negative consequences on the health and social status of citizens. An analysis of the Paris think-tank OpenExp as early as 2019 documents that Slovak households had the highest energy costs, making them one of the EU countries where people are most at risk of energy poverty. While in 2019 energy expenditure together with housing expenditure was 23.4%, in 2022 it is already 26.8%. The effects of higher energy prices on household budgets vary depending on their consumption. If a household uses gas only for cooking, its annual costs may increase by several euros next year. However, if the water is also heated, then in that case the household can pay a few tens of extra euros a year. However, if the household also uses gas for heating, then its annual expenses may increase by more than € 100. The situation is similar in the case of electricity. For households with lower consumption, this may increase the annual costs by up to approximately € 50, and in households with higher consumption by up to € 160. However, if households also use electricity for heating, their annual expenses can increase by up to € 200. This situation is deteriorating in connection with the current situation, so it is necessary to make more active investments in reducing energy

consumption. Areas that need to be more focused on are mainly buildings, whether housing, office buildings, or public buildings, as they consume around 75% of the electricity produced, produce almost 70% of all waste, consume 12% of water and generate more than 30% greenhouse gas emissions.

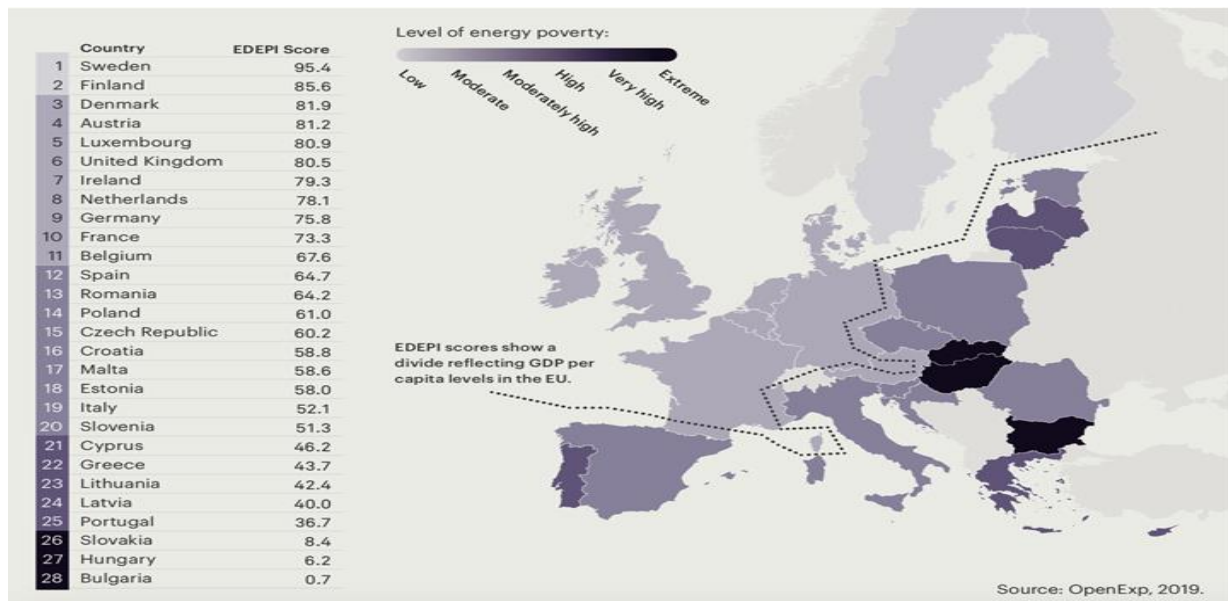


Figure 5: Energy poverty (European Domestic Energy Poverty Index (EDEPI))<sup>1</sup>  
(Source: OpenExp. 2019)

Therefore, in 2015, the Green Households project helped to meet the goal of increasing the energy efficiency of buildings in the Slovak Republic, within which bills in the total amount of € 76 million were reimbursed from the Operational Program Environmental Quality. They have been used to invest in equipment to reduce energy consumption.

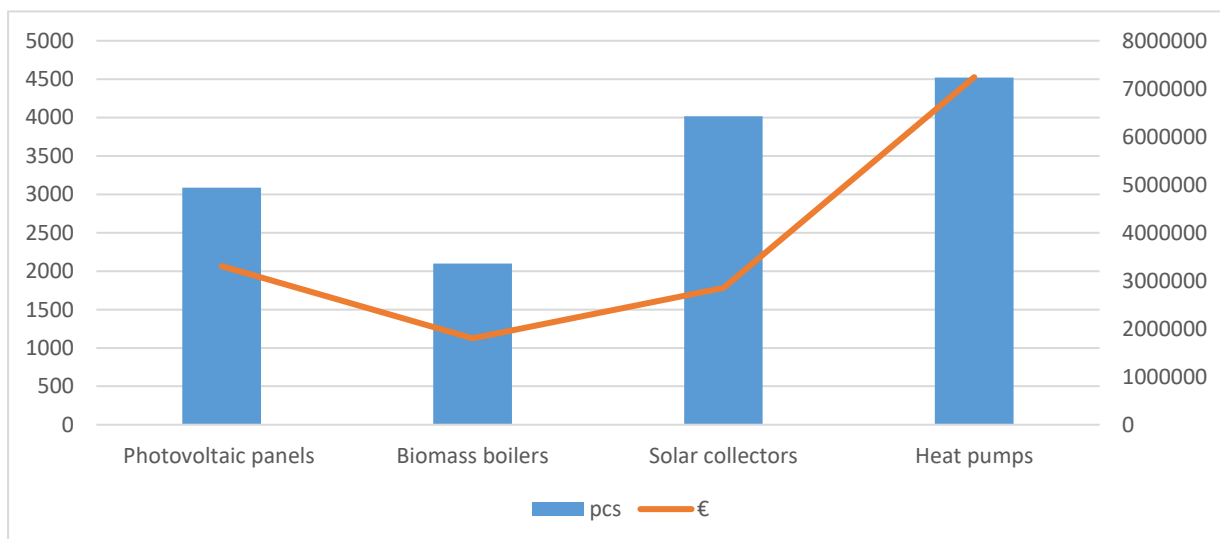


Figure 6: Status of drawing funds from the Green to Households project  
(Source: processed according to data <https://zelenadomacnostiam.sk/sk/domacnosti/stav-cerpania/>)

<sup>1</sup> European Domestic Energy Poverty Index (EDEPI) - the value is determined on the basis of four statistical inputs: energy costs compared to total household expenditure, metrics reflecting people's thermal discomfort during winter or summer and the quality of household housing in terms of energy efficiency.

In 2022, through the Green Households III project, it is planned to provide 16 mils. € to support the installation of equipment for the use of renewable energy sources (RES) in Slovak households. Households will be able to use the funds to procure biomass boilers, photovoltaic panels, solar collectors, and heat pumps. The amount of the subsidy can be a maximum of 50% of the eligible installation costs. The price of the voucher depends on the installed power of the device. The household can receive the highest subsidy for a heat pump. The maximum contribution, in this case, is set at € 3,400. It will be possible to obtain a maximum subsidy of € 1,750 for solar collectors, and a maximum of € 1,500 for photovoltaic panels or a biomass boiler. The support is in the form of vouchers that households can reimburse to contractors. SIEA will reimburse the vouchers directly to the contractor upon completion of the installation. In the project, households can choose from almost 4,000 specific types of equipment that meet technical requirements and from 1,200 contractors who are responsible for their delivery and installation.

## 5. CONCLUSION

Global greenhouse gas production is rising, weather extremes have caused confusion in regions around the world, and the world's largest economies are relinquishing their climate commitments. As the population of cities grows rapidly, and it is in cities that climate change will be more intense and will place high demands on the resilience of buildings. It will therefore be necessary for old buildings to be restored and for new buildings to be made less energy-intensive. Energy-efficient buildings should be widely available, especially for middle- and low-income households and vulnerable people. Slovak households are aware of the urgency of the climate crisis. As many as three-quarters of the population consider it to be the greatest challenge facing humanity. However, when renovating or renovating a house, they are primarily decided on the price of materials and not on their sustainability. In Slovakia, we encounter the problem that the most vulnerable people do not have the funds to repair homes, insulation, and replace windows. They cannot pay extra for the replacement of the boiler, because the contribution does not cover the total costs and households do not receive a loan and are not saved.

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## LITERATURE:

1. Acaravci, A. 2010. Structural Breaks, Electricity Consumption and Economic Growth: Evidence from Turkey. *Romanian Journal of Economic Forecasting*. 2/2010.
2. Bédi, E. 2002. Klimatické zmeny. Fond pre alternatívne energie – SZOPK, Bratislava, [www.fae.sk](http://www.fae.sk).
3. Cicea, C., Pirlogea, C. 2011. Obtaining Economic Growth from Energy Consumption in Urban Areas. *Theoretical and Empirical Researches in Urban Management*, vol. 6, issue 3.
4. Csereklyei, Z., M. d. Mar Rubio-Varas, Stern, D. U. I. 2016. Energy and economic growth: the stylized facts. *The Energy Journal*, Vol. 37, No. 2. pp. 225-226. DOI: 10.5547/01956574.37.2.zcse
5. Čaboun, V. 2009. *Klimatické podmienky - rozhodujúci faktor vývoja prírodných lesov*. Lesnícky výskumný ústav vo Zvolene. Available on: <http://www.chmu.cz/meteo/CBKS/sbornikKosice/>

6. Dufková, J. 2004. *Změny erozně klimatického faktoru za posledních 40 let*. In: Rožnovský, J., Litschmann, T. (ed): Seminář „Extrémy počasí a podnebí“. Rožnovský, J., Litschmann, T. (ed):, Brno, 11. března 2004, ISBN 80-86690-12-1
- Hou, Q. 2009. The relationship between Energy Consumption Growths and Economic Growth in China. *International Journal of Economics and Finance*, vol. 1, no. 2, ISSN(Online): 1916-9728
7. Chontanawat, J., Hunt, C. Lester, P. 2006. *Causality between Energy Consumption and GDP: Evidence from 30 OECD and 78 Non-OECD Countries*. Surrey Energy Economics Centre. Department of Economics University of Surrey.
8. Jarvis, A. J., Leedal, D. T., Hewitt, C. N. 2012. Climate-society feedbacks and the avoidance of dangerous climate change. *Nat Clim Change*, 2 (2012), pp. 668-671
9. Lapin, M. 2003. Changes in Meteorological Conditions of Flood Risk in the Changing Climate. *Živoné prostredie*, Vol. 37, No. 4
10. Matejka, F., Rožnovský, J., Hurtalová, T. Kohut, M. 2004. *Atmosférické sucho na začiatku tretieho tisícročia*; In: Seminář „Extrémy počasí a podnebí“. Rožnovský, J., Litschmann, T. (ed):, Brno, 11. března 2004, ISBN 80-86690-12-1
- Sorrell, S. 2015. Reducing energy demand: A review of issues, challenges and approaches. *Renew. Sustain. Energy Rev.* 2015, 47, 74–82
11. Vojtek, M. Faško, P. Šťastný, P. 2009. *Dynamika snehovej pokrývky v stredných a vysokých horských polohách Slovenska*. SHMÚ Bratislava. Available on: <http://www.cbks.cz/sbornikRackova03/sections/3/Vojtek.pdf>
12. West, G.B., Brown, J. H., Enquist, B. J. 1997. A general model for the origin of allometric scaling laws in biology. *Science*. 276/ 5309 122-126
13. British Petroleum. Statistical Review of World Energy. London. United Kingdom. 2021.
14. Communication (COM(2011) 112 final) — A Roadmap for moving to a competitive low carbon economy in 2050. Available on: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A52011DC0112>
15. Directive 2010/31/EU on the energy performance of buildings. Available on: <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=LEGISSUM%3Aen0021>
16. Directive (EU) 2018/844 of the European Parliament and of the Council of 30 May 2018 amending Directive 2010/31/EU on the energy performance of buildings and Directive 2012/27/EU on energy efficiency. Available on: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32018L0844>
17. Global Status Report 2018.
18. Global Renewables Outlook: Energy transformation 2050.
19. IEA. World energy outlook. International Energy Agency, Paris. 2022.
20. Urbanistka: Iba zmena konzumného spôsobu života by mohla odvrátiť klimatické zmeny. Available on: [www.euractiv.sk](http://www.euractiv.sk)
21. <https://op.europa.eu/webpub/eca/special-reports/energy-efficiency-11-2020/sk/>

## FOR A CITIZEN'S APPROACH TO JUSTICE: (PREVIOUS) AUDIENCE, PROCEDURAL MANAGEMENT AND CONCILIATION

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### ABSTRACT

*In the Portuguese judicial system, the assumption of the relevance of a previous court hearing, halfway between the initial deduction of the claim subject to judgment and the final decision of the case, was embodied by the decisive (and applauded) Reform of 1995-1997, DL n° 329-A/95 of 12/12 and DL n° 180/96 of 09/25. This reform, considered by many to be the most paradigmatic civil procedural revolution to which the Portuguese Civil Procedure Code has been subjected since 1939, assumed a new paradigm: a “working community” to better solve the dispute, through the “preliminary hearing”, an absolutely innovative moment of anticipation of the meeting between parties, representatives and judge. One of the purposes of this phase, would be to achieve parties conciliation: somehow, through a pacifying consensus lead by the judge, a negotiated solution would end the dispute. Therefore the choice of (attempted) conciliation, as the first investment of the so called preliminary hearing (art. 508°-A n° 1 alínea a) CPC by DL n° 329-A/95), which was tending to be mandatory. 18 years later, a new Reform (Law n° 41/2013 of 26/06) insists on this hearing, now called “previous” but paradigmatically identical to the “preliminary”, clearly reinforcing the obligation to carry it out, as well as reinforcing the judge's powers-duties in fulfilling those aims, among them the (attempted) conciliation, once again at the top of the list (art. 591° n°1 point a) CPC). Witnessing closely the evolution of this entire journey, we soon realized the “resistance” put up by the judiciary community to the ease of this previous “meeting point”. Despite the intentional “strengthening” of the 2013 reform, resistance, although met, persists. For the rest, the pandemic that has befallen the world in the last 2 years will have, quite conveniently, done the rest. With significant damage to a adequate conflicts resolution and justice achievement much closer to the citizens, a purpose that is being left behind. This is what we propose to analyze.*

**Keywords:** *justice, citizen approach, audience, conciliation, procedural management*

### 1. INTRODUCTION

Civil procedure is a perfect mirror of justice policy options. It reflects necessarily the prevailing ideology and underlying the sociological, political and economic realities of the corresponding period. This is how, observing the evolutionary horizon line of the civil procedure in Portugal, from the 19th century to the present day, there has been a clear shift from a process strongly influenced by a liberal ideology, from a private and eminently formal conception of the process, to a conception of process which, dominated by a publicistic and authoritarian conception from 1939 onwards, it came later, from 1995-96 onwards, to assume a private or dispositive character tempered by a growing judge interference but in a process guided by cooperation, basing its mission on the search for material truth and a fair and equitable solution to the dispute. And it is within the framework, and as a accelerator, of a „culture of dialogue“ that puts forward the best solution to the dispute, that a hearing is inserted: a real meeting in between process actors, half way to the process outcome. Such a hearing, headed by the judge, represents an important stage in parties active participation, as well as in judge's exercise of procedural management

duty (in a broad sense), and it states the relevance of cooperation between the parties and between the parties, representatives and the court itself so that manages to „*achieve, quickly and efficiently, the fair settlement of the dispute*“ (art. 7º nº 1 CPC). This is how the judge activity to conciliate the parties represents a strong contribution to this desideratum, which is also why the entire portuguese civil procedure stands for the attempt at conciliation (as well as other forms of self-composition), specifically the judicial attempt at conciliation. In fact, in the context of the common declaratory action, the attempt at conciliation officially convened by the judge's case, stands at the top of the hearing purposes, and it is even mandatory to hold it at the beginning of the final hearing (art. 604º nr 2 CPC). For the rest and along the process, whenever it seems possible to induce the parties to a equity and persuasiveness conciliation, the same judge may decide to summon such an attempt. It is therefore justified to reflect – though briefly - on the evolution and legal and practical status of the attempt at jurisdictional conciliation in our legal system, initially as a *prior* attempt before another entity, and, definitely after, as a *judicial attempt* at conciliation headed by the judge of the judicial case, as a means to achieve a fair settlement of the dispute and, precisely for this reason, being able to contribute to bringing the citizen closer to justice.

## 2. CHAPTER NAME TWO

### 2.1. Sub chapter name one

Analyzing its course, it appears that the jurisdictional attempt to conciliation, was early assumed in the portuguese civil procedure: in the 1876 Code, the attempt at conciliation was established as mandatory before the Judge of Peace, the so called *prior* conciliation attempt (article 357): it meant that no case could be brought in court without being preceded by an attempt at conciliation, so the plaintiff would always have to attempt such conciliation, the defendant being obliged to appear before the conciliatory court (although he could refuse conciliation). In fact, however, and long before that, in the portuguese legal system, conciliation had always been considered an important institution, and the attempt at (previous) conciliation had already come a long way. In the 16th century, King Manuel I created, to operate locally, the *seekers or settlers of demands*, entrusting them *the power* to compose and conciliate those who were in disagreements and demands; whenever they became aware of the existence of such disagreements, they had to interfere officialy, and their intervention could be requested by one of the parties, in which case they had the duty to conceal this request for intervention. These so called *avindores* will have lost expression since, later in the Philippine Ordinations they are not mentioned; nevertheless, the Ordinations place the judge, at the beginning of the demand, to warn the parties for the convenience and usefulness of an understanding, more for reasons of *honesty* than of *necessity*. ( “*And at the beginning of the lawsuit, the judge will say to both parties, that before they make expenses, and hatred and dissension ensue between them, they must agree, and not spend their property by following their will, because the winning of the case is always doubtful. And what we said of reducing the parties to concord, is not of necessity, but only of honesty in cases where they can do good*”, Philippine Ordinances, Book III, Title 20, I). In the XIX century, according to the Constitutional Charter of April 29, 1826, the prior attempt at conciliation is established as mandatory; the Charter expressly calls “reconciliation” under the terms of its article 128: “*Without stating that the means have been of reconciliation, no process will begin*”. Reconciliation performed before judges specifically created for this purpose: thus, the *judge of peace* appears (Article 129 of the Charter). However, as mentioned above, the attempt at conciliation should necessarily take place, under the terms of the 1876 Code, before a judge of peace, despite the fact that the failure to carry out the attempt, at this point in the Code, did not imply any major consequences, since such invalidity did not affect the forwarding action until sentence.

## 2.2. Sub chapter name two

The 1939 Procedural Code has changed the conciliation attempt legal regime. Despite the dissenting voices - defenders that such a *previous attempt before the judge of peace* should be maintained, and maintained as mandatory as a condition of its effectiveness, in order to avoid the damages and deep hatred that a judicial dispute erases, and also as it happened in other contemporary legislations – this previous attempt at conciliation, to be requested before the judge of peace, and which the Code maintained in articles 476 to 479, became, after all, *optional*. The thesis that the attempt at conciliation *could only be effective when attempted by the judge of the case at the right time* had partially prevailed; and that it would rarely be effective when imposed at the beginning of the demand, before the judge of peace, since he would be unaware of the concrete conflict, would not be adequately prepared and therefore would limit himself “*to making the abstract praise of peace and concord. However, this is not enough to disarm the contenders*” (Alberto dos Reis, notation to article 476 CPC). In any case, it has always been assumed that the conciliatory magistrate should not have a passive role but an active role, as the law (artº 477º CPC) wanted the judge of peace to make efforts to avoid litigation: “*the conciliator must suggest the solution that seems fair to him*” (A. dos Reis, CPC Anotado, vol. II, 3rd ed., page 327). The conciliation, putting an end to the controversy, was equivalent to the transaction, so producing the effect of *res judicata* between the parties and preventing the matter reopening. Besides, it was (as today) able to base a executive judicial action. However, the 1939 Procedural Code, assumes social peace as a purpose of justice, and *no judgment, however perfect, achieves this high purpose better than a conciliation between the litigants* (Alberto dos Reis quoting Dino Grandi, Italian Minister of Justice, notation to article 476 of the CPC). Therefore, it has innovated in this matter: along with the maintenance of the previous attempt at conciliation before the judge of peace, *as optional*, it established a *new attempt*: the conciliation before the *judge of the case himself*, now in the context of the then created *preparatory hearing* (article 513 of the CPC 1939). It should be noted that this preparatory hearing, where this official attempt at conciliation before the judge in the case stands up, takes place in the context of the “ideological turn” in which the 1939 Procedural Code emerged (and which, incidentally, follows the path of the reform previously proposed, in 1926, by Prof. Alberto dos Reis and which was not immediately assimilated): unlike the legislator of the 1876 Code, this legislator of 1939, following the publicist and authoritarian character to be given to the process, wants the judge to have the real and effective leading of the dispute (Austrian influence) and, on the same line, echoing of Chiovenda's teachings, consigns the advantages of the principle of orality, and also of concentration and immediacy, but as pure instruments of a kind of “*principle of permanent and intensive activity of the judge*” (or *principle of the authority of the judge*) as the main intention of the Code (Luís Correia de Mendonça, “80 years of authoritarianism: a political reading of the portuguese civil process”, in *Proceso Civil e Ideología*, Tirant Lo Blanch, 2006, page 399). This is how - as an expression of this intention - the *preparatory hearing* was born. Its main objective would be to enable the judge to prepare technical process aspects, far beyond the official schedule of the attempt at conciliation. This attempt at conciliation, incidentally, was seen suspiciously by many, as they understood that the attempt to conciliate the parties would certainly be useless: in the Code Revision Commission, Barbosa de Magalhães was one of those who rebelled against it, stating categorically “*our forensic practice and the knowledge of many cases passed with other lawyers lead us to the deep conviction that no benefit results for the administration of justice, but rather inconveniences and serious dangers, either in the attempt at conciliation or in the personal hearing of the parties. The judge is the least suited entity to attempt conciliation, as few are those who have the tact, prudence, and skill, necessary not to make known their predisposition, which can result either from the study of the process (...) or from feelings of a personal order, whose strength cannot overcome.*”

*Given his authority and power, the parties, and even sometimes the lawyers, find themselves in an embarrassing and difficult situation to resist either the advice, the requests, the instances, or even the threats that he employs when he intends the obsession of achieving conciliation” (Alberto dos Reis, in annotation to article 513 ° CPC, point 2). In any case, these fierce criticisms were rejected, and it was recognized that, “in normal terms and as a rule, the judge is the most suitable person to lead the parties to a reasonable conciliation”, in this hearing, which was configured as “discussion”, once opened, and implied as a *first and mandatory* act (A. dos Reis, CPC Anotado, vol. III, in annotation to article 513), the performance by the judge of an attempt to conciliate the parties “in order to achieve a equitable solution” (article 513 of the CPC 1939); the legislator assumed it was the judge's *duty* to carry out the attempt at conciliation: “the phrase “will seek to conciliate the parties” is very significant” (A. dos Reis). And it was given such relevance so that the legislator even admitted the possibility of postponing and rescheduling the preparatory hearing to be able to carry out the attempt at conciliation that had not been possible at a previous date. Besides, the attempt could, in fact, be carried out “in any other moment” of the process and whenever the court seems it convenient” (article 513, sole paragraph CPC). What is certain is that this paradigm of a strong, active and informed judge, although repackaged in future reforms, is here to stay...*

### **2.3. Sub chapter name three**

...just as, on the other hand, and in the 1961 Procedural Code, the previous attempt at conciliation (optional, before the judge of peace) *definitively disappeared*, a formula whose objective was to avoid future legal disputes. Portugal followed the international trend that saw the previous attempt as a useless and even counterproductive means, as it could dangerously contribute to the very *involution* of the institute of conciliation and its effective practical reach. The official attempt of the judge in the case was maintained – and it will be maintained in the future (article 509 and 652 of the CPC), in fact following the tendency, even in comparative law, of giving greater importance to the official attempt at conciliation of the judge in the case with a character of *equity and persuasion* conciliation. It was the consolidation, also in the portuguese legal system, as it was happening in other countries, of the *jurisdictional tendency of conciliation*, that is, of amicable composition suggested by the judge of the case. Indeed, in comparative procedural law of a publicistic and inquisitorial nature such as the Portuguese law, there is a progressive affirmation of conciliation during the course of the case; this tendency corresponding to a positive view of the political and social interest of the State's jurisdictional function. In the words of Pessoa Vaz (Civil Procedural Law – from the old to the new code, Almedina, 1998, page 245) “the transcendent purpose of judicial conciliation based on jurisdiction (to carry out social pacification and promote persuasive justice and equity between the litigants), reflects one of the highest aspirations of all times and peoples, and corresponds to the modern ideal of moralization and humanization of justice”.

### **2.4. Sub chapter name four**

Overtaken the pure liberal vision of the 1876 Code, the formalist authoritarianism of the 1939 Code and even the „patchwork“ of legislative changes in which the 1961 Code subsisted, the *consequent* breaks through – in some way – to break with the *precedent* : a new, pioneering intention emerged from the 1995/96 Reform (handed by DL n° 329-A/95 of 12 December and DL n° 180/96 of 25 September). It is time for a new paradigm in civil procedure: readjusting private and public visions, this new process understanding is based on fundamental lines such as guaranteeing respect for the fundamental values of civil procedure, the prevalence of material decisions over formal decisions, a intervening judge but a stronger and active participation of the parties as an expression of procedural responsibility, now in a context of (innovative) *cooperation* (DL Report n° 329-A/95 of 12 December) to reach the solution – thus, the



„*preliminary hearing*“ was born, a fundamental vertex of this new *cooperation paradigm* standing that, for the first time in the history of portuguese civil procedure, it is important to hold a real hearing between the parties, representatives and judge, halfway before the final hearing. And in the former - as in the latter since 1985 - the official attempt at conciliation is assumed to be essential (Article 508-A No. 95 of 12 December). Indeed, if the previous *preparatory hearing* would take place if and when the judge had intended to decide the cause or, at least, to discuss and decide any matter related to the cause, this new *preliminary hearing* and the idea of *cooperation* as an „*angular and exponential principle of the process civil law, in order to allow judges and representatives to cooperate with each other in order to achieve, in an expeditious and effective manner, the justice of the specific case*“ (Preamble DL n° 329-A/95, page 16) , not only appears a wide range of purposes to be pursued, but it was also assumed as a rule act of the ordinary declaratory process. Thus, the judicial attempt at conciliation, which carried over from the previous preparatory hearing, reinforces its procedural status, as it becomes part of an intermediate hearing which *must* take place, and is included as one of the main purposes of this hearing, at the top of the list (art.508°-A n° 1 alínea a) CPC 1995), obviously whenever the disputed legal situation is not imperative. And, naturally, without forgetting the maintenance of the obligatory nature (which, as mentioned, came from 1985) of the attempt at the beginning of the hearing of discussion and judgment of the case (art. 652° n° 2 CPC 1995). In both cases, according to article 509 of the CPC 1995, which is systematically included in the preliminary hearing phase - moreover, in a non-consensual manner, since the attempt at conciliation has nothing to do with the reorganization, and moreover being an act capable of taking place at any point in the process, it would be better if it were provided for in the general and common provisions of the code. Certain is that, despite its procedural status having acquired greater visibility, according to the aforementioned article 509, the official attempt at conciliation continues to depend on the judge's option or opportunity judgement in „*search for the most adequate solution to the terms of the litigation*“ (article 508-A n° 1 paragraph a) and 509° n° 3 CPC 1995). Equity will play a role here in precluding legal decision criteria (Oliveira Ascensão, 1995, „O Direito, Introdução e Teoria Geral, Coimbra, n° 214). A completely innovative – and debatable – solution one find in paragraph 4 of this article 509: once the attempt is made, but the conciliation results frustrated, „*the grounds that justify the persistence of the dispute, will have to be expressed*“. However, although the intention of the legislator to promote procedural economy and the factual and legal delimitation of the dispute is perceived, it was soon discussed that such a solution could be configured as counterproductive and even harm the negotiation, by virtue of creating reservations or constraints on the parties. And, moreover, it seems not to be compatible with the duty of secrecy on failed negotiations imposed on lawyers (according to the then article 86° n° 1 of the EOA, now article 92° n° 1, subparagraph f)) (Lebre de Freitas, José, Alexandre, Isabel,(2017), Código de Processo Civil Anotado, Volume 2°, notation art° 509° number 4, 3ª Edição, Almedina)

## 2.5. Sub chapter name five

18 years later, and handed Law n° 41/2013 of 26 June which reformed the Civil Procedure Code, reinforcing orality and cooperation and creating the *duty of procedural management (in charge of the judge)* (art° 6° CPC 2013), there is a kind of „remake“ of the preliminary hearing: now clearly reinforced in its tendency to be held, it is now called the „*prior hearing*“. And, as seen in the previous version, it assumes the prior character of the official attempt at conciliation, as well as its obligation to carry out at the beginning of the final hearing (art. 591° n° 1 a) e 594°, e 604° n° 2 do CPC approved by Law n° 41/2013 of 26 June ). In fact, it was definitely clear, according to this 2013 Reform, that the common declarative action must take place *between two hearings*, the preliminary and the final, and that the „*culture of dialogue*“, of *approach between the parties and between these and the court, must be the rule*. Which also

implies (or should imply) an even greater relevance of the judicial attempt at conciliation and its effective accomplishment. This means that the legislator assumes the unavoidable importance of that „preliminary“ hearing „half the way“, and its purposes, as a relevant instrument for that „culture of dialogue“ that favors the accomplishment of the process aim, on the one hand, and, on the other hand, noting the resistance of judicial operators (all, without any exception) to using it throughout its 18 years of existence, *reinforced it and insisted on it in 2013 named „prior hearing“*. And among its purposes, the one that appears at the top of the list continues to be, as it has been said, the judicial attempt at conciliation (artº 591º nº 1 a) CPC). Furthermore, following the reinvigoration of this hearing, the legislator also reinforced the role of the judge in the official attempt at conciliation, as if clearly encouraging the judge to make efforts to ensure that conciliation takes place: the current art. 594 CPC, which replaced art.509 CPC 1995, concerning judicial conciliation, states a complete new duty, that is, the judge must *„engage actively in obtaining the most adequate solution to the terms of the dispute“* (nº 3), and that, in case of frustration of the conciliation, in addition to indicating the grounds that, according to the parties, justify the persistence of the dispute (solution that already comes from 1995), will have to be consigned *„the concrete solutions suggested by the judge“* (nº 4). On the other hand, the provisions of paragraph 1 regarding the fact that the parties cannot be called exclusively to attempt conciliation more than once, now seems to clash with the intention and scope of the novel *duty of procedural management*. The 2013 Reform has been in force for almost nine years. It represents (largely and especially with regard to the relationship between the parties and the judge in achieving the equitative process) the re-insistence of a *participatory judicial culture* initiated by the Reform 95/96, so it's been 27 years of hard work.

### 3. CHAPTER NAME THREE

At the same time, it should also be noted that the 2013 Civil Procedure Code, arises together with a variety of other legislation encouraging alternative means of resolving disputes, namely arbitration, courts of peace, mediation, instruments for conflict self-composition. It's commonly accepted that self-composition, any way, is seen as *preferential* because it is a peaceful understanding that a negotiated solution will enhance a conflict that has been fought and an effective future social peace, not least because it will guarantee the acceptance of the solution reached for the future than of acceptance of the judicial decision of the conflict (if it is considered unfair). In a negotiated solution, compromise, by definition, will be more effective. The Code 2013 itself, article 273, provides for the possibility for the judge to refer the case to mediation service, suspending the instance in the meantime, in order to promote a solution of self-composition that pacifies the dispute. But, in fact, everything points out, as already mentioned, to a certain *prevalence* of the judicial conciliation. Which does not fail to appear, at least apparently, as contradictory if we keep in mind the primary aim: neutralize, or at least minimize, conflict and promote concord and social peace. In fact, it is not usual to see the judges using this instrument, available through article 273. Which could even be very advantageous, not only as a way of self-composition, but also as a way of preserving the judge himself, that is, his *neutrality* when and if he is called to judge the cause. And, possibly, self-composition may even be achieved more effectively given the fact that the parties, because they are not facing the one who will ultimately judge the dispute, are more comfortable with „opening up“ to negotiation among themselves.

### 4. CONCLUSION

All that has been reported so far, allows us to point out some ideas about the institutional path, as well as the importance, of the judicial attempt at conciliation in the portuguese system. First of all, the portuguese legislator has always been sure that avoiding disputes or prolonging them should be one of the purposes of the good administration of justice in order to achieve social

pacification. Furthermore, the expansion and consolidation of the judicial attempt at conciliation by the judge in the case – which definitively annihilated the previous attempt at conciliation as provided for in the 1939 Code – is associated with ideological and dogmatic changes within the civil procedure. Specifically, the shift to a publicistic, social view of the process, based on the strengthening of the judge's inquisitorial powers, and the correlative assumption of powerful instruments such as the principles of orality, immediacy and concentration with the 1939 Code, later accompanied, by the hand of the Reform 95-96, of the principle of cooperation, and even more recently through the Reform 2013, of the duty of procedural management of the judge (in a broad sense). It is the clear setting of an active and assisting judge. Thirdly, that the purpose of the judicial attempt at conciliation, ever since and to the present day, is to achieve a conciliation based on *equity*. That means an approach of law and justice to morality through the exercise of the judge's power-duty of persuasion: the judge, *„as a conciliator, „does not impose“ on the litigants a given solution, even if it is corrected or attenuated by its own criteria of equity; merely suggesting to them that solution as the most appropriate to the situation under discussion and trying to persuade them to give their conscientious adherence to the content of the same, so that between them may arise an atmosphere of reciprocal satisfaction and intimate and lasting peace* “(PessoaVaz, Direito Processual Civil-do Antigo ao Novo Código, Almedina Coimbra, 1998, página 264) . It is also clear that the consolidation of the purpose of carrying out the judicial attempt at conciliation - despite the fact that this can be carried out at any stage of the process and even being mandatory in the last meeting in the final hearing - is strongly associated with the intermediate hearings that the said ideological and dogmatic change successively brought to the civil process (preparatory/ preliminary/ previous). From the outset, and perhaps with some intentionality, its regulation has always been inherent within the phase in which these hearings take place (artº 513º CPC 1939, artº 509º CPC 1995, artº 594º CPC 2013). On the other hand, it is the moment for a first meeting, *face to face*, between the procedural actors. Although - which seems to be in contradiction with the current duty of procedural management and its *ratio*, as already mentioned - the parties can only be called to stand before judicial attempt at conciliation for a single time, it appears clear, as it is evident from the aspects mentioned above, that conciliation assumes *„an apparently more preponderant role as a means of resolving disputes than what appeared in the former code“* (Elizabeth Fernandez, Um novo código de processo civil?- em busca das diferenças“, Vida Económica, 2014, página 15). As we have seen, the legislator stressed in 594 that the judge *must actively engage in obtaining a solution of equity* (3), even having to *propose concrete solutions*, which, when not having the intended effect of conciliation between the parties, *must be expressed and recorded*. In spite of this reinforcement, of this strong will assumed by the legislator, history shows us that, in fact, the judicial attempt to conciliation did not achieve high levels of success. And we believe that happens mainly due to the *actors- judge, parties, representatives-* not the legislator. Several reasons are given to explain this situation. In addition to the ambiguities of the regime - such as the fact that the parties can only be called once, and even the fact that there are limits to the possibilities of suspending the judicial process for the purpose of negotiations leading to the transaction (art.272º nº 4, for example), in a clear constraint on the power and duty of procedural management – there are also other reasons: if some see the judge as the entity most prepared to promote and achieve conciliation, not least because he knows better the contours of open litigation, others argue that *„the conciliation carried out by the judge tends to be less effective, especially if the conciliator judge is to be – as it is – the judging judge and, furthermore, the concrete proposal is recorded and the refusal implies the transcription of the reasons that still determine the subsistence of the litigation. The conciliation activity implies the judge to scrutinize the parties and probably learns unwritten (because not essential) aspects of the dispute.*

*Only this dialectical communication with the parties allows him to understand the true aspects of the dispute and the points of possible surrender and, therefore, of possible transaction, in order to be able to proceed with a transaction proposal. Now, knowing this, the parties have a humanly natural tendency not to open up to the judge, inhibiting their communication with him, which will necessarily imply that the conciliation, most of the times, is frustrated, when it could even have potential to succeed“* (Elizabeth Fernandez, Um novo código de processo civil?- em busca das diferenças“, Vida Económica, 2014, página 15). Most likely, and for the same reason, there will be parties who, perhaps with no reasons (or not), suspect the neutrality of the judge; and judges who fear being suspected of partiality in leading the parties to the transaction, thus not making enough effort to achieve it. In any case, however, other instruments are available, both for the parties and the judge, as mediation, for the promotion of self-composition, without any commitment or discomfort for any of the actors, but which utility is not increased . We even believe that, despite its legal assumption, it is looked suspiciously, as one assists the legislator's reinforced commitment to judicial conciliation (article 594, nº 3 CPC). Therefore, despite the procedural instruments, the given relevance throughout the judicial process, maximally in the prior and final hearings, the judge's duty of commitment and the consistency of his management power (duty) of procedural opportunity, and despite the effort and reinforcement of the legislator over the years, the effectiveness of judicial conciliation in the actual and assumed purpose of self-settling disputes has fallen short of expectations. There is no commitment or enthusiasm in the judicial attempt to conciliation. In the context of the judicial process, the culture of litigation continues to be stronger than that of its positive neutralization. Which doesn't necessarily mean a better justice.

#### LITERATURE:

1. Carta Constitucional de 29 de Abril de 1826, retrieved 22-05-2022 from <https://www.parlamento.pt/Parlamento/Documents/CartaConstitucional.pdf>
2. Correia, João, Pimenta, Paulo, Castanheira, Sérgio, (2013), Introdução ao Estudo e à Aplicação do Código de Processo Civil de 2013, Almedina, Coimbra
3. Correia, João, (2016), O Contencioso entre o Estado e os Cidadãos, in II Colóquio de Processo Civil em Santo Tirso, página 15, Almedina, Lisboa
4. Costa e Silva, Paula, (1997), Saneamento e Condensação no Novo Processo Civil: a fase da audiência preliminar, in Aspectos do Novo Processo Civil, pag 213 ,LEX, Lisboa
5. Domingues de Andrade, Manuel A., (1979), Noções Elementares de Processo Civil, Coimbra Editora
6. Fernandez, Elizabeth, (2014), Um Novo Código de Processo Civil? Em Busca Das Diferenças, Vida Económica, Porto
7. Lebre de Freitas, José, (2001), Código de Processo Civil Anotado, Volume 2º, Coimbra Editora
8. Lebre de Freitas, José, Alexandre, Isabel,(2017), Código de Processo Civil Anotado, Volume 2º, 3ª Edição, Almedina
9. Lebre de Freitas, José, (2017),A Acção Declarativa Comum -à luz do Código de Processo Civil de 2013, 4ª Edição, Gestlegal, Coimbra
10. Mendonça, Luis Correia de, (2006), 80 Anos de Autoritarismo: uma leitura política do processo civil português, in Proceso Civil e Ideología, Tirant Lo Blanch, Valencia
11. Mesquita, Miguel, (2013), Código de Processo Civil, 31ª Edição, Almedina
12. Montalvão Machado, António, Pimenta, Paulo, (1997), O Novo Processo Civil, TSE Editores, Porto
13. Neto, Abílio, (1996), Código de Processo Civil Anotado, 13ª Edição, Ediforum, Lisboa
14. Novo Código de Processo Civil,(2013), 6ª Edição, Coleção Legislação, Porto Editora
15. Oliveira Ascensão, 1995,,O Direito, Introdução e Teoria Geral, Coimbra,

16. Ordenações Filipinas, retrieved 22-05-2022 from <http://www1.ci.uc.pt/ihti/proj/filipinas/l3p587.htm>
17. Pessoa Vaz, Alexandre Mário, (1998), Direito Processual Civil- Do Antigo Ao Novo Código, Almedina, Coimbra
18. Reis, Professor Alberto dos, (1981), Código de Processo Civil Anotado, Volume II, 3<sup>a</sup> Edição- Reimpressão, Coimbra Editora, Lim.
19. Reis, Professor Alberto dos, (1985), Código de Processo Civil Anotado, Volume III, 4<sup>a</sup> Edição- Reimpressão, Coimbra Editora, Lim.
20. Teixeira Bastos, Tribunais de Arbitros-Avindores, retrieved 22-05-2022 from <https://www.gutenberg.org/files/28962/28962-h/28962-h.htm>

## ASSESSMENT OF SELECTED SENSORY ATTRIBUTES AND THEIR EFFECT FOR CUSTOMER PURCHASING BEHAVIOR

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### ABSTRACT

*Sensory perception gives us the opportunity to be able to orient ourselves in the current situation or in the given environment in which we are currently located and also gives relatively thorough information about the given fact. Purchasing decisions are influenced by the circumstances of the purchase, which include the customer's sensory perceptions. Based on this knowledge, sensory marketing was created, which seeks to influence the purchasing process by acting on all the senses of the customer. The aim of the paper is to examine shopping behavior in relation to the effect of sensory marketing attributes and socio-demographic characteristics of consumers. The questionnaire consisted of the following selected attributes: visual marketing, auditory marketing, olfactory marketing and tactile marketing. Within the methodology, there was investigated how selected attributes of sensory marketing affect individual socio-demographic indicators. A questionnaire survey was conducted on a sample of 126 respondents, whose average age was 31.9 years. The survey was aimed at obtaining the opinions of respondents in terms of their visual, auditory, olfactory, tactile and taste perception during shopping. The following were selected as socio-demographic characteristics: respondent's monthly income, education and residence (urban / rural). The established hypotheses were verified through descriptive statistics and statistical analysis in the statistical program SPSS, where appropriate mathematical and statistical methods were used. Statistical analysis did not confirm the existence of relationships between selected characteristics of respondents and attributes of sensory perception. The level of monthly income of respondents, education and residence did not prove a correlation with the perception of sensory marketing stimuli.*

**Keywords:** *Buying behavior, Marketing, Perception, Senses, Stimuli*

### 1. INTRODUCTION

At present, many products are offered on the market, which are equal not only in price but also in quality. Buying these products has become a daily concern for consumers, which has led to the development of different types of consumer behavior over time. During shopping, these consumers are constantly influenced by various stimuli that constantly influence their consumer behavior. Thanks to this knowledge, salespeople often try to influence customer behavior through a variety of factors, including sensory perceptions (Štefko et al., 2013). The aim of the paper is to examine shopping behavior in relation to the effect of sensory marketing attributes and socio-demographic characteristics of consumers.

## 2. THEORETICAL BACKGROUND

Consumer shopping behavior is the expression of different emotions during the search, evaluation and consumption of services or products from which it expects a certain level of satisfaction. To obtain certain products, the entity must devote its efforts, time and money. All this confirms the consumption and evaluation of products, but also that how often individuals buy the products and how their judgment influences further purchases (Schiffman & Kanuk, 2004). Customers make a huge number of purchasing decisions every day and these decisions are the subject of research by various companies with the intention of determining how customers decide what, in what amount, how many times, why and when they buy (Bartáková et al., 2007). Choosing from a huge amount of ancillary information that works in interaction with each other during a purchase, we call the customer's decision. If these decisions were available to businesses, they would be able to use the right marketing moves to inform, reach out and persuade the customer to buy the product created by them (Schiffman & Kanuk, 2004). All final consumers who purchase products or services for their own private use together create a consumer market. The purchasing process itself begins before the actual purchase and continues after its completion. However, the sale of a product or service does not end the consumer's attention. Furthermore, the consumer must obtain information about the service or the product in order to be satisfied, because these are the issues that will affect his future decisions (Kovalčíková & Bod'ó, 2014). Sensory perception gives us the opportunity to be able to orient ourselves in the current situation or in the given environment in which we are currently located, it also gives quite thorough information about the given fact. It can also be explained as the main method by which we can communicate with the environment. In this way we can receive data from the external environment, but also from our body, influence them and respond in some way (Vágnerová, 2004). We commonly perceive our surroundings as a complex of numerous feelings, as a whole. Perception is the end result of perception, through which we can know the world around us. It is in the consciousness of man, where it creates a reflection of objects and phenomena as a whole. The sensation itself is created by the interaction of several analyzers. The course of perception begins with the reception analysis. Each receptor chooses from pulses according to how they act on it, and then chooses among them according to which is adapted for reflection (Štefanovič, 1975). The basic characteristics of perception include: completeness, selectivity and significance. We fully understand that perceptions are still involved in some past experience and that they are still a picture of some whole. For example, when looking at a certain object, we visually record its shapes, but we also perceive what it may be like to touch. The significance of perception is shown by the fact that we understand stimuli as bearers of a specific meaning. An essential feature of perception is its individuality depending on the perceiving person. During perception, the so-called laws of form are applied, which at the same time justify why some stimulus components come together in specific complete units (Košč, 2009). It is important that perception itself mainly concerns the subject of perception. In the visual perception, the surrounding events are not only captured directly by the eye, but by the person who passes on the entire perception to its purpose, demands, and requirements. Perception includes various factors such as choice, reasoning or interpretation. The setting as such is influenced by context, assumption, past experience, motivation, but also emotional attunement (Hill, 2004). Sound has a strong influence on a person's moods, with the help of which he can also influence his shopping behavior, and the theory of the customer's auditory perception is also based on this fact. That is why a unique part of marketing is sound, which plays a big role especially in communicating with customers through various advertisements. Properly aligning your music with your ad can ensure that our future customers remember the ad easily. Therefore, good music can play an important role where it can support the atmosphere or identity of our company (Samulova, 2017; Birknerová, Frankovský, Zbihlejšová, Parová, 2017).

One of the most important senses that also affects the emotional center of the brain is smell. This sense can evoke different reactions in customers, arouse old pleasant memories of their lives and many other things. Since odors are situated all around us, whether they are pleasant or not is not important, because they have a huge impact on consumer behavior anyway. Thus, olfactory perception is an individual phenomenon, highly encapsulated in the subjectivity of autobiographical memory (Chu & Downes, 2000). As far as touch is concerned, many times the touch brings the customer closer to the product. With the help of touch, the customer can assess the quality of the product and then choose it, so such a touch should evoke good feelings. During the production of various packaging, food or cosmetic products, tactile marketing is very important in order to create the need to buy the product through the customer's touch (Boček, 2009). The main role of sensory marketing is to encourage customers' perceptions and thus evoke their positive reactions or emotions (Hultén, Broweus & Dijk, 2009).

### 3. RESEARCH

The aim of the paper was to identify and specify the differences between the assessment of selected attributes of sensory perception and selected socio-demographic characteristics of respondents. The mutual differences between the education and residence of the respondents were characterized, as well as the differences within the average monthly income of the respondents. The goal was realized through a questionnaire survey and the results were processed in the statistical program SPSS.

Research hypotheses:

- Hypothesis 1: We assume that there are statistically significant differences in selected attributes of sensory perception in respondents' average monthly income.
- Hypothesis 2: We assume that there are statistically significant differences in selected attributes of sensory perception in terms of respondents' education.
- Hypothesis 3: We assume that there are statistically significant connections in selected attributes of sensory perception in terms of respondents' residence.

#### 3.1. Research methodology and methods

In quantitative research, we used the method of collecting empirical data and mathematical-statistical methods to analyze this data. We collected empirical data using the online questionnaire method. The questionnaire consisted of the following selected attributes: visual marketing, auditory marketing, olfactory marketing and tactile marketing. Within the methodology, we investigated how selected attributes of sensory marketing affect individual socio-demographic indicators. The methodology contains 30 statements, which were assessed on a 5-point Likert scale with the following scale from 0 to 4: 0-Totally disagree; 1-Disagree a little; 2-Neutral opinion; 3-Agree a little; 4-Totally Agree.

Attributes that the methodology contained:

- 1) **Visual perception** –the customers notice if the goods in the store are harmoniously arranged. Customers prefer a store where they can easily find their way around and like its appearance, even though they know that the store has higher prices. Customers of visual perception will notice if there is poor lighting or a strong color in the store.
- 2) **Auditory perception** – if pleasant music plays in the store, customers usually stay longer. Music in the store can improve the mood of customers. Conversely, if the customers do not like the music that is being played, then they leave quickly. Customers will notice if there is silence in the store, without music. On the contrary, the noise in the store can make them nervous.



- 3) **Olfactory perception** – a pleasant smell in the store can improve the mood of customers. If the smell is too strong or they don't like it, they will leave the store. An unpleasant odor can discourage customers from shopping. These customers will notice if there is no smell in the store that is related to the goods.
- 4) **Tactile perception** – these customers like to try things and are willing to pay a higher price for the goods they can try in the store. They don't like shopping online because they can't try things directly. They will not make up their mind about the final purchase until they hold the goods in their hands. They like to check and touch the items that are for sale and make a decision on the purchase during that time.

We verified the established hypotheses through descriptive statistics and statistical analysis in the statistical program SPSS, where appropriate mathematical and statistical methods were used.

### 3.2. Research sample

The research sample consisted of 126 respondents, of whom 69 (54.76%) were women and 57 (42.24%) men. The average age of the respondents was 31.9 years (the standard deviation was 12.341 years). The range of years was from 14 to 74 years.

## 4. RESULTS AND INTERPRETATION

To verify Hypothesis 1 (We assume that there are statistically significant differences in selected attributes of sensory perception in respondents' average monthly income), we based the obtained data on the limit of 900 EUR for monthly income. Of the total number of respondents, 33% of respondents had a monthly income of over 900 euros and 67% of respondents had less than 900 euros. Table 1 describes selected sensory perception attributes based on average monthly income.

	Income	Mean	St. Deviation	t	Sig (2-tailed)
<b>Visual perception</b>	0-900 €	2.3262	0.73944	0.446	0.657
	901-1900 €	2.2714	0.60093		
<b>Auditory perception</b>	0-900 €	2.2262	0.72197	-0.160	0.873
	901-1900 €	2.2476	0.68119		
<b>Olfactory perception</b>	0-900 €	2.4048	0.88575	-0.730	0.467
	901-1900 €	2.5190	0.69712		
<b>Tactile perception</b>	0-900 €	2.0190	0.71228	-1.326	0.187
	901-1900 €	2.1952	0.68430		

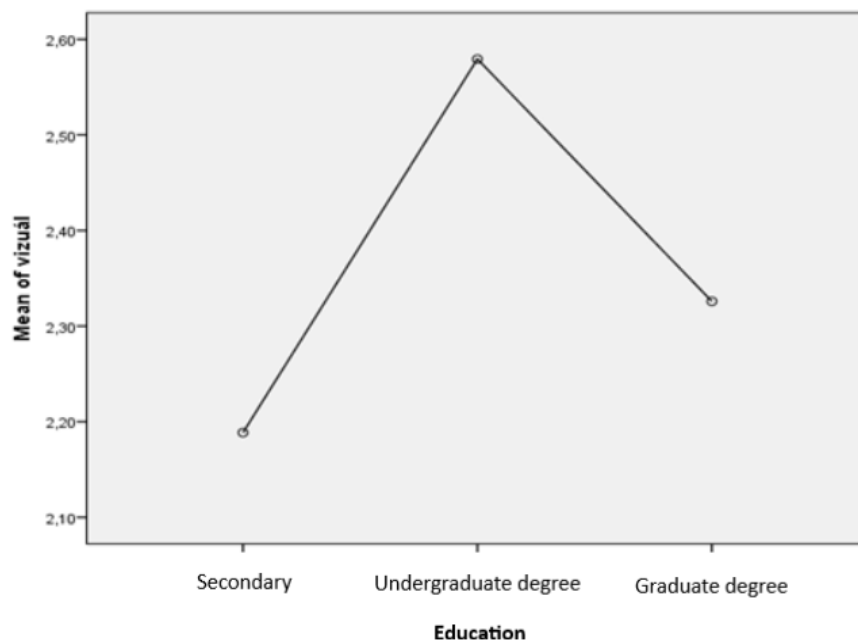
*Table 1: Differences in income of selected attributes of sensory perception  
(Source: own processing)*

We used the mathematical-statistical t-test method to compare the differences in selected attributes of sensory perception in respondents' average monthly incomes. Within the examined differences, we did not record statistical significance for any of the attributes of visual perception. To verify hypothesis 2 (We assume that there are statistically significant differences in selected attributes of sensory perception in terms of respondents' education), we used categories from elementary education to postgraduate degree to determine education. However, the respondents were divided into only three groups, namely 70 (56%) respondents had a secondary education, 29 (23%) an undergraduate degree (Bc.) and 27 (21%) a graduate degree. We tested the hypothesis using Post-hoc comparison.

Working area	Working area	Average difference	Significance
Secondary education	Undergraduate degree (Bc.)	-0.39074	<b>0.028</b>
Undergraduate degree (Bc.)	Graduate degree	0.25338	0.349
Graduate degree	Secondary education	0.13735	0.648

*Table 2: Post-hoc comparisons of average assessments of sensory perception in the attribute visual perception in terms of education (Tukey HSD)  
(Source: own processing)*

In Table 2 we describe selected attributes of sensory perception between secondary, undergraduate and graduate education. Based on the analysis of variance  $F = 3.382$ ,  $\text{Sig.} = 0.037$ , we found significant differences in the attribute "visual perception" in relation to the achieved education of respondents.



*Figure 1: Average evaluations of the sensory perception attribute in terms of educational attainment  
(Source: own processing)*

In Table 2 and Figure 1, we can see that there are statistically significant differences in the visual perception attribute between secondary and undergraduate education. Higher scores are recorded for respondents with an undergraduate degree. These customers seem to be more attentive if the goods in the store are harmoniously arranged. They prefer a store where they can find their way around and like its appearance, even though it has higher prices. For the other attributes of sensory perception, we did not observe statistical significance in the context of the educational division. To verify hypothesis 3 (We assume that there are statistically significant connections in selected attributes of sensory perception in terms of respondents' residence), we distinguished residence as urban and rural. Of the total number of respondents, 61 were from the city (48%) and 65 respondents were from the countryside (52%). Table 3 describes selected attributes of sensory perception between urban and rural areas.

	Residence	Mean	St. Deviation	t	Sig (2-tailed)
<b>Visual perception</b>	urban	2.2721	0.62648	-0.559	0.577
	rural	2.3415	0.76360		
<b>Auditory perception</b>	urban	2.2459	0.69127	0.193	0.847
	rural	2.2215	.072467		
<b>Olfactory perception</b>	urban	2.3574	0.79508	-1.126	0.262
	rural	2.5231	0.85344		
<b>Tactile perception</b>	urban	2.0279	0.66486	-0.768	0.444
	rural	2.1246	0.74331		

*Table 3: Differences in selected attributes of sensory perception in terms of residence  
(Source: own processing)*

We used the mathematical-statistical t-test method to compare the differences in selected attributes of sensory perception between urban and rural areas. Within the differences from the point of view of residence, we did not record statistical significance for any of the attributes of sensory perception.

## 5. DISCUSSION AND CONCLUSION

The effect of the environment on sensory marketing is based on the object of purchase, where we buy a service or product that is located in such an atmosphere, which is determined by the given sensory qualities. The customer perceives these sensory qualities and interprets them in his/her own way. The qualities that have been observed from the environment then affect how the customer develops a mental idea of the environment. The mental idea of the environment together with the emotional state creates an influence on the customer's decision when buying a service or product (Franěk 2005). In the context of the topic of sensory perception, we examined the existence of statistically significant differences in selected attributes of sensory perception within the average monthly income of respondents, their education and residence. In the case of monthly income and residence, we did not record any statistical significance. In terms of education, we found a statistically significant difference in the attribute of visual marketing. This difference testifies to the fact that respondents with an undergraduate level will notice light and colors when shopping earlier than secondary school respondents. Education is an important factor in today's society. Its important function is also that it affects unemployment, individual finances, but also the good governance of society. It can be assumed that the population with a higher level of education is more attentive to the stimuli applied by visual marketing. According to Jurášková (2016), consumers with a university degree are more receptive to quality and therefore focus their attention on small stores that can provide it. On the other hand, there are large chains that focus on the low price of products, which are used mainly by respondents / customers with lower education. According to Barinková (2010), the customer uses his/her eyes to obtain up to 80% of information from the surrounding environment. This is why the visual environment of a given store is an important function, so colors and light are important for retailers in their stores. They warn customers about possible dangers, they can attract attention, they ensure the compliance of the offer with the customer's assumptions. Light in stores can be natural or artificial, its choice depends on the specific requirements of a particular store. The choice of color depends mainly on the affiliation of the store to the brand or on the owner's own taste. One of the main goals of retailers is to understand the evaluation processes when choosing products for individual consumers. Researchers try to define the wishes, desires and basic needs of customers as accurately as possible so that the designed products best meet their needs.

However, even consumers themselves often have no idea what product they are looking for, what its features should be and what it should excel at. Companies, in turn, have trouble finding a suitable way to communicate to reach their target audience. The use of knowledge in the field of sensory perception aims to help solve this problem.

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## LITERATURE:

1. Barinková, Z. (2010). *Le marketing sensoriel d'un point de vente: Le mémoire de fin d'études*. Bratislava: Ekonomická univerzita v Bratislave. Cit. 12.11.2019 [https://of.euba.sk/www\\_write/files/veda-vyskum/scb/vydane-cisla/2015-01/scb0115\\_Pajonk-Plevova.pdf](https://of.euba.sk/www_write/files/veda-vyskum/scb/vydane-cisla/2015-01/scb0115_Pajonk-Plevova.pdf)
2. Bartáková Gabriela a kol. (2007). *Základy marketingu*. Wolters Kluwer: Iura Edition.
3. Birknerová, Z., Frankovský, M., Zbihlejová, L. & Parová, V. (2017). Gender differences in perception of advertising in the context of expectations of advertising. *Journal of applied economic sciences*, 12(6), 1751–1758.
4. Boček, M. (2009). *POP - In-store komunikace v praxi: trendy a nástroje marketingu v místě prodeje. 1. vyd.* Praha: Grada
5. Franěk, M. (2005). *Hudební psychologie*. Praha: Karolinum.
6. Hultén, B., Broweus N., & D. Marcus (2009). *Sensory marketing*. Springer.
7. Chu, S., Downes, J. (2000). *Longlive Proust: The odour-cued autobiographical memory bump*. *Cognition*, 75, B41-B50.
8. Jurášková T. (2016). *Hypermarketom sa záruka končí. Začína éra trpaslíkov*. Dostupné 21.10.2016 z <http://finweb.hnonline.sk/spravy-zo-sveta-financii/544437-hypermarketom-sa-zaruka-konci-zacina-sa-era-trpaslikov>.
9. Košč, M. (2009). *Základy psychológie*. Bratislava: Slovenské pedagogické nakladateľstvo.
10. Kovalčíková, Z., Boďo, D. (2014). *Moderný marketing pre stredné školy*. Bratislava: Metodicko-pedagogické centrum.
11. Samulova, P. (2017). *Zmyslový marketing a jeho vplyv na slovenských spotrebiteľov*. Cit. 15.11.2019 [https://fmv.euba.sk/www\\_write/files/dokumenty/veda-vyskum/medzinarodne-vztahy/archiv/2017/4/MV\\_2017\\_4\\_371-389\\_Nadanyiova.pdf](https://fmv.euba.sk/www_write/files/dokumenty/veda-vyskum/medzinarodne-vztahy/archiv/2017/4/MV_2017_4_371-389_Nadanyiova.pdf)
12. Schiffman, L., G., Kanuk L., L. (2004). *Nákupní chování*. Brno: Computer Press.
13. Štefanovič, J. (1975). *Psychológia učiteľovho taktu*. Bratislava: SPN
14. Štefko, R. et al. (2013). *Marketing našej súčasnosti*. Prešov: Bookman, s.r.o.
15. Vágnerová, M. (2004). *Základy psychologie*. Praha: Karolinum.

# BARRIERS TO ADDITIVE MANUFACTURING ADOPTION WITHIN AUTOMOTIVE INDUSTRIES

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## ABSTRACT

*Additive Manufacturing (AM) technologies are perceived amongst best options to handle the disruptions in many industries as offering unique capabilities that may also benefit automotive industries. Despite significant pressure to adopt new methods and technologies for quick recovery in a post-Covid scenario, empirical evidence has highlighted that only a partial AM adoption has been achieved by Original Equipment Manufacturers (OEMs) and their suppliers. The purpose of this paper is to understand the factors that inhibit or constrain thorough AM adoption, and in doing so both technical and non-technical barriers are considered. Through a detailed appraisal of the literature, author identifies that previous attempts to discover technology adoption barriers demonstrate encouraging results with regard to the adoption of new technologies. However, the review also reflects the fact that limited work has been done to explore the level of AM adoption within the automotive supply chain and the specific technical and non-technical barriers for automotive industry to enable them to appropriately adopt Additive Manufacturing. These shortcomings will be addressed in the present study.*

**Keywords:** *Additive Manufacturing, Technology Adoption, Barriers to Adoption, Automotive Industry, Europe*

## 1. INTRODUCTION

Additive Manufacturing (AM) technologies offer many potential opportunities to achieve competitive advantage in various industries, as making prototypes and improving the parts by a trial and error process is more straightforward and faster using AM technologies (Tareq et al., 2021). Enabling the production of individually molded parts, which was inconceivable until recently, AM caused the evolution in product development and supply chain management. The technologies of Additive Manufacturing were initially employed in the production of prototype parts, however in recent years the focus of research and practice has extended to the direct production of end-use parts (Caffrey and Wohlers 2015). Significant progress in AM development in the past decade has changed the way in which products are designed, developed, produced and distributed. For the automotive industry, this progress has enabled the production of cleaner, easier and safer products in new designs with lower production costs (see Giffi et al., 2014). All these opportunities have influenced the increase in interest for AM by the media and research audience (Baker, 2013; Cotteleer et al., 2013; Giffi et al., 2014; Murphy et al., 2015; Stratasys, 2013a, 2013b). Automotive industry is in the transition period - leading companies apply new technologies and sophisticated analytics to reduce costs and make their supply chains more responsive to customer requirements in an environment of declining consumer demands and closures of manufacturing plants globally, caused by lockdowns in Covid-19 pandemic (Kaitwade, 2020) and the recently started war between Ukraine and Russia. The automotive industry is one of the most affected sectors, as it has a globally connected upstream supply chain network – around one million employees around Europe lost their jobs when numerous plants closed due to Covid-19 crisis (ACEA, 2020). The leading causes for cessation of production activities were shortages in the supply of auto components (Muhammad et al., 2021). Consequently, growing pressure to formulate effective methods for business recovery has generated high interest in adopting various industry 4.0 technologies within

automotive industry, as disruptive technologies might play a crucial role to become supply chains more responsive to sudden events such as Covid-19 (Frederico, 2020). As one of the leading industries in innovation adoption, automotive sector still exemplifies the leveraging of processes and technologies for competitive advantage: from Ford's moving assembly line driving productivity, GM's pioneering in planned obsolescence of product, through to Toyota's Production System underpinning the entire Lean Production movement. Where automotive companies achieve good process and technology implementations massive success is possible; unfortunately poor implementations can be disastrous. The benefits of AM have led numerous authors to suggest their eventual displacement of conventional manufacturing approaches (e.g. Cotteleer and Joyce, 2014; CSC, 2012). Whilst such claims have been criticized as being sensationalistic (MacCormack, 2017; Park, 2017), it is obvious that AM have the potential to radically change the production and business practices of modern enterprises. Therefore, research to understanding this phenomenon is of great importance to academics and practitioners alike. Despite the general understanding of the benefits of AM adoption in production and business operations, the analysis of previous studies on the subject matter showed that limited studies have analyzed the level of AM adoption and barriers to adoption in the automotive supply chain in detail, which have great potential in its restructuring. One explanation of this research gap is the perception among researchers that AM is not ready for commercial application yet. One of the key research in this area is Ranganathans dissertation (2007), who claims that the commercial adoption of AM will probably occur in the future, thus limiting the consideration of the technology implications and limitations in the supply chain context today (Eyers, 2015). Despite the potential commercial applications, the accelerated rate of technological advancement and commercial adoption have not been covered in previous studies that examined the impact of AM adoption in production processes. Although the opportunities of AM in the concept of mass customization are already well established (Reeves et al., 2011; Tuck and Hague 2006), the level of adoption of these technologies has only recently begun to attract the attention of the researchers. Most studies in this field are characterized by lack of theoretical and empirical evidence – therefore, the possibility of generalizing to demands and challenges of the manufacturing environment is limited. Although the literature provides much evidence on the ability of certain types of AM, little emphasis is put on the adoption of these technologies in the commercial production systems (Eyers, 2015). As the ongoing Covid-19 crisis has pushed automakers towards the digital transformation, the need for conducting AM adoption barrier analysis is imperative. In order to define how AM adoption in production processes affects the company's business in the modern competitive environment, it is necessary to consider this issue in a broader context of the supply chain. Therefore, one can conclude that the study of the barriers to AM adoption in the context of supply chain is timely and feasible. This paper attempts to provide redress for a lack of empirical research exploring the adoption of AM in the automotive context. Based on the presented research field and problems, this paper has two objectives:

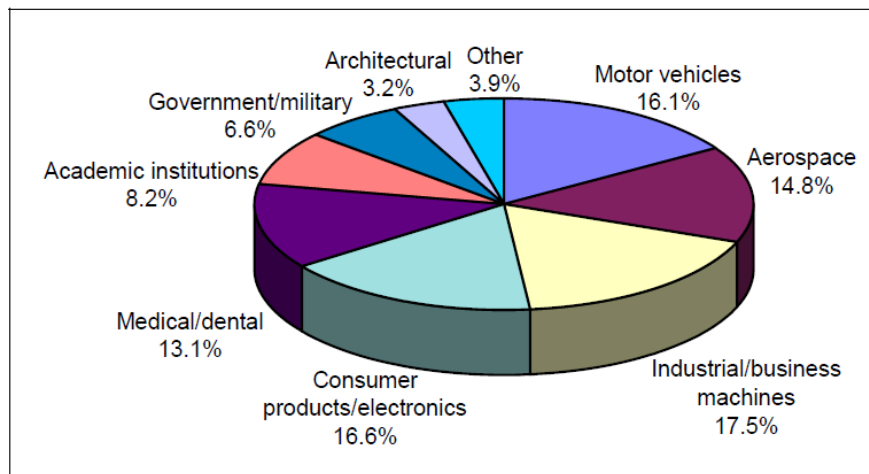
- To critically evaluate the existing scientific knowledge and discuss terms and concepts on Additive Manufacturing in Automotive Industries;
- To identify and conceptualize barriers that mostly limit the Additive Manufacturing adoption among automotive supply chain companies.

According to the paper objectives, the research hypothesis assumes those identified barrier variables to AM adoption negatively, but with different intensity affect the possibility of Additive Manufacturing adoption in the automotive supply chain. Respecting the purpose and objectives of the paper, the intention is to examine the level of adoption and influence of identified barriers to AM adoption in the automotive supply chain.

## 2. THEORETICAL FRAMEWORK

### 2.1. Fundamental principles of Additive Manufacturing

There is a number of different additive manufacturing technologies classifications. This paper accepted ASTM International classification (ASTM International, 2012), according to which additive manufacturing technologies are divided into eight categories: (1) Vat Photopolymerisation; (2) Material Jetting; (3) Binder Jetting; (4) Material Extrusion; (5) Metal Powder Bed Fusion; (6) Plastic Powder Bed Fusion; (7) Sheet Lamination and (8) Direct Energy Deposition. As technologies evolved, AM found increasing applications in different industries (Figure 1), with industrial machines, electronics, aerospace and automotive industry as leading sectors in AM adoption (Wohlers, 2012). In the development of general concept of AM adoption, it is necessary to identify the main components, or system activities. Additive manufacturing evolved from one-off prototypes production and custom parts in high volume production. The above mentioned demonstrate Wohlers research results (Wohlers, 2019), according to which AM is used in end-use parts production (28,4%), functional prototypes (27,9%), cosmetic models (10,7%), education (9,9%), polymer patterns and molds (7,7%), jigs/fixtures (6,1%) and metal tooling (4,7%). From the above data derive main components of AM adoption concept, which are used as a basis for the operationalization of AM adoption variable: (1) AM in product visualization; (2) AM in prototyping; (3) AM in tooling; (4) AM in jigs and fixtures; (5) AM in direct part manufacturing; and (6) AM in maintenance and repair.



*Figure 1: AM adoption within industries  
(Source: Wohlers, 2012)*

### 2.2. Review of Additive Manufacturing barriers to adoption literature

Whilst there has been little focused research concerning the adoption barriers that may affect automotive industries, there are many studies for other industries that have suggested potential barriers. Despite the freedom in design, capability in building parts from multiple materials and almost negligible computer-aided designing (CAD), there are still significant barriers to a broader adoption and use of AM in modern industrial practice (Schoinochoritis et al., 2015). AM have made significant progress in last 25 years, however, technical challenges associated with materials, equipment and applications, and non-technical barriers related to professional qualifications, employees skills and the willingness of top management to introduce radical changes and innovations in the production process are still present. Although AM potentially offers a number of opportunities in the manufacturing process, incorrect selection, as well as investments in new technology may negatively affect the balance sheet and the company's business (Ahmad et al., 2011).

Mellor et al. (2014) point out that the decision to invest in AM should be associated with market needs, the needs of end customers and the physical characteristics of the product. Existing investment risk and expected return differ from company to company; although for many the key factor, cost is only one of the elements that affect the decision on investment and the implementation of a completely new production technology. Time-to-market is more important factor, and the large number of companies is ready to allocate significant resources to accelerate the improvement process and the placement of the new product on the market (Bourell et al., 2009). Goyal and Grover (2012) estimate that standard financial investment strategies, based on the net present value, return on investment, pay-back period and internal return rate, are not sufficient indicator for making decisions on the investment and implementation of AM in the production process. Schoinochoritis et al. (2015) presented an overview of the current limitations and barriers to AM adoption in production practice: (1) people (lack of process understanding and credibility; lack of vision); (2) methods (lack of design for AM tools); (3) machines (low productivity and product quality; high capital costs); (4) materials (non-standardized material characteristics; induced porosity); (5) measurement (lack of commercial monitoring systems); (6) environment (low energy efficiency; decreased energy consumption). Then, Bourell et al. (2009) state the following barriers to AM adoption: (1) the production time required is longer than in conventional production forms; (2) limited accuracy and production consistency at the expense of time-to-market speed; (3) the need for qualified staff and specific skills to design in CAD software; (4) limited reliability of hardware machines; (5) lack of hardware and software solutions for the effective options usage. AM and the related concept of 3D printing are still evolving but, despite their growing commercial use, there are still many challenges in terms of equipment improvements and processes support. In order to compete in the market, components produced with AM will have to achieve the performance level enabled by the traditional production methods. Therefore, it is necessary to establish repeatable processes, especially in the aerospace and automotive industries characterized by a high level of processes quality and finished products control. When considering technical barriers to AM adoption, one of the key obstacles is certainly the lack of technical standards (in the form of materials and steps in the production process). Therefore, top management, especially executives in industries with significant procedural requirements, such as the automotive industry, should be aware of existing limitations in making decisions about investing in new production capacities (Delić, 2020). The main limitation of AM, as well as other developing technologies, is the actual cost of the machines. With the cost of machines, significant barrier is the cost of materials used in AM procedures, since the conversion of raw materials into a form suitable for the AM processes is often a major challenge and the extra cost for businesses (especially when it comes to 3D metal printing technology where metals in powder form are used as the raw material). Stratasys research from 2015, one of the world's largest AM producers, showed that equipment and machinery costs (63%) and the lack of adequate production materials (54%) are the key limitations to AM adoption in production processes (Stratasys, 2015). Bradbury points out the functional limitations of existing CAD software as one of the major barriers to AM adoption (in Zolfagharifard, The Engineer, 2014), while Cormier sees the biggest progress opportunities in the area of CAD technology performance development (Shipp et al., 2011). Since rapid manufacturing results from rapid prototyping processes, some restrictions related to rapid prototyping are also reflected in the processes of direct production of finished products. This particularly applies to the limitations in manufacturing precision, quality of finishing processes, high production costs, availability of production materials and the production speed (Ranganathan, 2007). AM still does not correspond to acceptable production deviations offered by conventional production techniques. Generally, finishing processes, resolution and mechanical properties of components produced by AM are still worse than those produced by conventional production techniques, although the



gap size depends on the type of material used; metal components show better properties than the plastic ones (Bianchi and Ahlstrom, 2014). As for the production adjustment, due to considerable variability in processes, AM still have not reached satisfactory level of production consistency in accordance with the specifications offered by conventional production techniques. Consequently, produced components require additional treatment after the production process, creating additional costs and increasing the time-to-market. Due to the above limitations, the AM adoption in industries with rigorous process control seems inappropriate now. Despite the different types of materials that can be used in AM, their characteristics such as strength, electrical and thermal conductivity and optical transparency are usually weaker in comparison to the materials used in conventional production systems (Gu et al., 2014). Therefore, the possibility of adoption of these materials is typically limited to functional testing models, presentation models and prototypes. Furthermore, differences in construction process parameters and environmental conditions (which are still not completely understood) can lead to significant differences in the characteristics and dimensions between parts produced on different AM machines (Bauereiß et al., 2014; Chantzis et al., 2013; Ivanova et al., 2013). Limited mechanical performance could be attributed to the porosity and the presence of thermally induced deformation of the finished components (Leuders et al., 2013), creating the instability during the materials consolidation (Kruth et al., 2004) and dimensional inaccuracy in the final components. Holweg (2015) points out that the production uncertainty is one of the key reasons why AM is still not sufficiently applied in the production of metal components. To avoid these limitations, the production practice very often uses predictive modeling techniques, in order to better understand the physical properties of materials and components. This technique allows designers and engineers to assess the components functional properties during the design stage, in order to achieve the desired results in the final production stage. Although AM offers a number of potential advantages, Eysers research (2015) showed that these technologies are still not able to satisfy the demand requirements independently, without other system resources; although technical literature frequently states that AM does not require human intervention (Gooch, 2013), the work is not eliminated from the production system, but, indeed, indispensable for many activities in the production realization. As a major disadvantage of AM Eysers (2015) points the size of components that can be produced. Several technologies that enable the production of large parts are developed so far, including Stereolithography (SLA), Fused Deposition Modeling (FSM) and Laser Sintering (LS). Giffi et al. (2014) give an example of the automotive industry where, given the limited production volume of AM, the majority of components can be produced by traditional or conventional production methods such as welding and mechanical joining. Bourrell et al. (2009) point out that, despite significant technical limitations, the key barrier to new technologies' implementation in most cases is the human factor; in the case of AM this includes the lack of education and professional staff. AM include a variety of disciplines, such as modeling in CAD software, laser and electron beam technology, metallurgy and statistics (Murphy et al., 2015; Shipp et al., 2012). Therefore, it is difficult to find qualified workers who have relevant experience in each of these areas, in order to understand all aspects of this technology development. Another specific skills required in the field of AM adoption are the preparation and production materials management, the analysis of finishing processes and supply chain management (Feloy et al., 2013). Another significant non-technical barrier is the material availability, reliable and high-quality sources, which frequently represents a major challenge. Together with limited materials, the significant limitation are specialized suppliers of powder materials and machines for AM. However, with all the current limitations and barriers to adoption, many experts (Gausemeier, 2013; Gibson et al., 2010; Murphy et al., 2015; Srivatsan and Sudarshan, 2015) believe that in a few years this technology will be able to produce bigger and better components than it is able today and find wider adoption in industrial

production. Even the potential of AM adoption in the development of the automotive industry is already recognized, there is still a group of technical and non-technical barriers that prevent wider implementation of these technologies within the automotive supply chain.

### 2.3. Development of a research model

The existing literature highlighted a set of barriers to additive manufacturing adoption in the production processes (Bianchi, Ahlstrom, 2014; Bourell et al., 2009; Eysers, 2015; Feloy et al., 2013; Gu et al., 2014; Holweg, 2015; Ranganathan, 2007; Stratasys, 2015; Walter et al., 2004). However, the review of previous research on the barriers to AM adoption in the production processes showed limited analyses to specific technical and non-technical barriers in the automotive supply chain context. In order to fill the research gap, this paper defines to what extent identified barriers prevent the AM adoption in the automotive supply chain. Combining the results from the existing literature with empirical evidence from primary research, the conceptual model of the influence of identified barriers to AM adoption in the European Union automotive supply chain is developed (Figure 2). Independent variable in the model is related to identified barriers to AM adoption, while the level of AM adoption represents the dependent research variable. Model preliminary attempts to answer the proposed research questions and will contribute to the current scientific knowledge in the field of AM adoption.



*Figure 2: The hypothesized research model  
(Source: author)*

The variable items derived from the existing empirical studies, most of which were qualitative research studies. Table 1 shows the literature used in the design of measurement scales for dependent and independent model variables.

Construct	Literature
Additive Manufacturing adoption	Baker, 2013; Droge et al., 2004; Eysers, 2015; Holweg, 2002; Schmid, 2013; Stratasys, 2013; White and Lynskey, 2013
Barriers to Additive Manufacturing adoption	Bianchi and Ahlstrom, 2014; Bourell et al., 2009; Eysers, 2015; Feloy et al., 2013; Gu et al., 2014; Holweg, 2015; Ranganathan, 2007; Romouzy Ali, 2005; Stratasys, 2015; Walter et al., 2004

*Table 1: Literature used in the design of constructs  
(Source: author)*

### 3. METHODOLOGY

#### 3.1. Data sample

The research was conducted on medium and large companies in the production of motor vehicles sector (NACE Rev. 2, Division 29) in the 28 European Union countries, measured by number of employees and the annual turnover (minimum 50 employees and minimum 10 mil EUR annual turnover). According to Eurostat (2015), the target population in the European Union numbered 3,400 companies. The selected population intended to cover a variety of business subjects from different levels of automotive supply chain (assemblers, tier-one, tier-two, sub-tier suppliers and OEMs). The sampling frame was taken from Amadeus database and a mailing list of 2,546 companies was downloaded. The list was manually reviewed, and those companies whose primary function is not production-related were excluded from the research. The final mailing list contained 1,684 companies. Since the sample of respondents is located in different territorial areas of the European Union, a stratified sample based on the division of the European market into five regions was used: the western, northern, central, southern and eastern Europe. The sample consists of the company directors, members of the Management Board, manufacturing managers, R&D managers, supply chain managers or product innovation managers. After refining the research framework, the online questionnaire in Qualtrics software was distributed with supporting materials. Out of 1,684 companies' e-mail addresses to which questionnaire was distributed through Qualtrics software, 415 listed e-mail addresses were invalid. Of those 1,269 companies who received the questionnaire, 28 fielded they are unable to participate in the research survey due to lack of time or data confidentiality. A total of 146 questionnaire responses were collected, of which 22 were incomplete and subsequently removed from the sample, which allows adequate comparability of questionnaires to all measured parameters (Kline, 2011). Therefore, the total of 124 completed questionnaire responses make the final survey sample. The total response rate is 9.8%, which is satisfactory due to general economic situation and the territorial scope of the research (Dillman et al., 2009). Comparing the obtained response rate with existing research in the field of automotive supply chain management, the previous studies used considerably smaller number of respondents. For instance, Droge et al. research (2004) was conducted on a sample of 57 suppliers from the automotive production sector, while Sanchez and Perez (2003) examined the impact of integration on the supply chain performance on a sample of 63 suppliers from the automotive production sector.

#### 3.2. Variables

Additive manufacturing adoption variable represents the dependent variable in the conceptual model of this paper (Figure 2). A comprehensive review of the available literature showed that the measurement instrument for the specified variable, which could be used in quantitative research, is not developed to date. Based on the presented qualitative insights from the field of AM adoption in production processes and the analysis of a large number of case studies, the

measurement instrument for operationalizing the concept of AM adoption through eight key dimensions was developed (Table 2). Since the AM adoption in the production processes is specific for each industry, four items that describe categories of motor vehicle parts were inserted to the research instrument. Therefore, a more detailed analysis of AM adoption in the automotive supply chain was enabled, so the top management could analyze the technology possibilities to improve the production process and the supply chain competitiveness. In addition, since the literature suggests to use auxiliary questions in developing the research variables to prove the authenticity of the answers, two more items which describe the level of and respondents satisfaction with the level of AM adoption were added in the research questionnaire. Although AM is available in the production for many years, according to results of Stratasys (2015), AM adoption has not yet reached the level of market saturation. For this reason, the respondents were asked to assess the level of AM adoption in their company in the next ten years. According to the above answers, the analysis of perspective adoption of AM in the automotive industry was developed, which will provide insight into future trends and to facilitate forecasting future sales to AM producers. To capture barriers to AM adoption in production processes, empirical findings from previous research were used (Table 1). After the analysis of the existing literature selected the most significant barriers to AM adoption, the field research was conducted in the Center for Advanced Manufacturing Systems at Cardiff University, one of the leading research centers for additive manufacturing technologies in Europe. After conducting field research and consultation with experts in the field of AM adoption in production systems, ten key dimensions of limitations to AM adoption were identified, whose intensity was examined in this study (Table 2).

### 3.3. Analysis technique

The research instrument was highly structured questionnaire composed of closed-type questions with multiple choice answers. Selection of research methodology is the result of a broad geographic dispersion of companies from the sample, due to which the method of face-to-face interviews is extremely expensive and impractical. When compiling construct measures, the initial hypothesis, the results, limitations and suggestions of previous studies were respected. The constructs were measured with multiple item scales developed from a review of existing theories and literature (Table 1). The online questionnaire in Qualtrics software was used for conducting online research. In the first part the questionnaire respondents were asked to answer whether their company adopted additive manufacturing (AM) in any phase of product development. In this manner, AM adopters were separated from those who have not adopted these technologies in their production processes. In the second part of the questionnaire respondents were asked to indicate: (1) the level of AM adoption in the automotive supply chain and (2) the significance of identified barriers that hinder the AM adoption among members of the automotive supply chain. The last part of the research questionnaire gives an insight into companies characteristics, such as size and structure, activities, position within the supply chain, workforce and turnover. All items for the construct were measured using a five-point Likert item ranging from 1=strongly disagree to 5=strongly agree. The process of generating variables and the constructs development went through four stages: (1) item selection from the literature, (2) presentation of the research instrument to Cardiff University experts, (3) questionnaire pretesting with 10 automotive companies and (4) the large sample questionnaire testing. In the first phase, the first version of the research instrument was developed by detailed analysis of the existing literature. In the second phase, the potential items from the research questionnaire were presented to 18 scientific experts in Logistics and Operations Management Section, Center for Automotive Industry Research and the Center for Advanced Manufacturing Systems at Cardiff University. The emphasis was put on the verification of the relevance of the each construct and the clarity of questionnaire items.

Based on the experts' feedback and suggestions, redundant and confusing words were changed or removed from the questionnaire to ensure the validity of the instrument content. Also, the suggested items were added to research questionnaire where necessary. The third phase of generating the variables involved questionnaire pilot testing on a small sample of 10 automotive companies, due to the population specifics (physical distance of the respondents). The pilot study confirmed that the questionnaire items were set clear and understandable, without equivocation and ambiguity. Therefore, the questionnaires were only technically adapted to the data collection method. The final version of the research instrument consists of two main parts, containing a total of 24 items. The construct measurement summary according to each sub-category is shown in Table 2. The final phase of generating variables is testing the validity and reliability of the research instrument on a large sample. Before the final version of the research questionnaire was distributed to respondents, the questionnaire statements were translated from English into Croatian, Italian, French and German, because of the language adaptation of the questionnaire. Data of all respondents were recorded in a Microsoft Excel file and analyzed by descriptive statistics, which results are detailed in this chapter. The basic characteristics of the research sample were presented, followed by elaborated and observed relations among variables from the research model. The analysis of the collected data was conducted in three phases: (1) descriptive analysis, (2) assessment of psychometric characteristics of applied measurement scales, (3) data analysis by determining the correlation between the level of AM adoption in production processes and the significance of the identified barrier variables to AM adoption within the European automotive supply chain. The PASW-IBM SPSS and PLS-SEM software were used for the data analysis.

### **3.4. Validation**

Before data analysis, the validity was analyzed for further analysis of the proposed research model. The first step examined the existence of outliers and tested the normality of AM adoption variable distribution with univariate and multivariate analysis of data normality, in order to identify outliers which may affect the validity of the model. Univariate method of outliers detection was conducted by conversion of data in z-score values in PASW statistical program. Then the multivariate analysis of outliers was conducted by using the Mahalanobis  $D^2$  method, demonstrating the absence of multivariate outliers.

*Table following on the next page*

Abbreviation	Item description	Factor loading	Cronbach alfa value
<b>Additive manufacturing adoption</b>		-	.870
AM_1	CAD adoption	-	(.083)
AM_2	CAM adoption	-	(.416)
AM_3	AM in product visualization	0.528	.484
AM_4	AM in prototyping	0.546	.450
AM_5	AM in tooling	0.797	.728
AM_6	AM in jigs and fixtures	0.812	.687
AM_7	AM in direct part manufacturing	0.758	.643
AM_8	AM in maintenance and repair	0.769	.681
AM_9	AM in production of non-specific components that can be installed in several vehicles	-	-
AM_10	AM in production of vehicle model specific components	-	-
AM_11	AM in production of complex assemblies consisting of several components	-	-
AM_12	AM in production of parts related to vehicle features that are optional (i.e. generally chosen by the customer)	-	-
AM_13	Generally, we think the level of AM adoption in our company is high	0.751	.608
AM_14	We are satisfied with the level of AM adoption in our company	0.806	.728
<b>Identified barriers to additive manufacturing adoption</b>		-	-
BARR_1	Cost of equipment	-	-
BARR_2	Lack of professional qualifications and skilled labor to run the equipment	-	-
BARR_3	Lack of understanding relevant opportunities of additive manufacturing adoption	-	-
BARR_4	Lack of suppliers and supporting vendors	-	-
BARR_5	Lack of support from company decision makers	-	-
BARR_6	Limited build envelopes of current technologies	-	-
BARR_7	Limited to low volume production	-	-
BARR_8	AM materials limitations	-	-
BARR_9	Reduced AM-manufactured product quality and reliability	-	-
BARR_10	Lack of automated finishing processes	-	-

*Table 2: Construct measurement summary  
(Source: author)*

In the next step, AM adoption variable is put on a strict evaluation of reliability and validity. The reliability of the measurement scale (Hair et al., 2010) demonstrates that construct indicators measure the same value, because the lack of unidimensionality may result in measurement error, which in turn results in a correlation decrease and the increase of standard

measurement error. As the methods for indicator unidimensionality authentication, Cronbach alpha value and factor loadings were used. The obtained KMO measure of distribution suitability for factor analysis (0.828) exceeds the defined minimum threshold of 0.6 and the Bartlett's test with statistical significance less than  $p=0.05$  indicates that there is sufficient correlation among variables to implement factor analysis (Hair et al., 2010). After the factor analysis (Table 2), reliability test for AM adoption variable was taken using the Cronbach alpha test. Cronbach's alpha coefficient was calculated for variable, as well as for each variable indicator (item). The reliability coefficient around 0.7 values was accepted (Kline, 2011) while item-total correlation measures should be more than 0.5 (Hair et al., 2010). Table 2 shows the reference levels of the Cronbach alpha coefficient (after the AM\_1 and AM\_2 items are removed, since Cronbach's alpha coefficient for the AM adoption variable is 0.850, if these items are not deleted), where all measurement items have a satisfactory level of reliability over 0.7. After the Cronbach alpha testing and items removal, the evaluation of each construct unidimensionality was conducted in SmartPLS 2.0 M3 statistical program. Criteria for achieving unidimensional constructs is the value of factor loading above the 0.7, and each item that does not meet the criteria will be removed from further analysis (Tenenhaus et al., 2005; Wilder et al., 2013). To test the convergent validity of the instrument the following criteria were used: (1) factor loadings (Table 2); (2) composite reliability (Table 3) with satisfactory level above 0.5 (Wilden et al., 2013); and (3) Average Variance Extracted (AVE), with satisfactory level above 0.5 (Hair et al., 2010).

<b>Construct</b>	<b>Average Variance Extracted (AVE)</b>	<b>Composite reliability (CR)</b>	<b>Cronbach alfa</b>
<b>Additive manufacturing adoption</b>	<b>0.531</b>	<b>0.899</b>	<b>0.870</b>

*Table 3: Convergent analysis  
(Source: author)*

The results from Table 3 show that AM adoption variable in the measurement model is reliable and internally consistent.

#### **4. RESULTS**

Prior to hypotheses analysis, the descriptive characteristics of the sample collected will be explained, with a brief review of categorical variables. Table 4 shows the structure of business entities that participated in the study according to the legal form, position in the supply chain, the number of employees and the annual turnover.

*Table following on the next page*

<i>Characteristic</i>	<i>n (%)</i>	<i>Companies AM adopters</i>
<b><i>Legal form</i></b>		
public listed company	41 (33.06%)	29 (70.73%)
limited company	52 (41.93%)	31 (59.61%)
partnership	13 (10.48%)	9 (69.23%)
sole proprietorship	8 (6.45%)	5 (62.50%)
other	10 (8.06%)	4 (40.00%)
<b><i>Position in the supply chain</i></b>		
sub-tier	3 (2.41%)	3 (100.00%)
tier two supplier	17 (13.70%)	10 (58.82%)
tier one supplier	42 (33.87%)	21 (50.00%)
assembler	29 (23.38%)	22 (75.86%)
OEM	33 (26.61%)	22 (66.66%)
<b><i>Number of employees</i></b>		
51-100	12 (9.67%)	5 (41.66%)
101-250	20 (16.12%)	11 (55.00%)
251-500	12 (9.67%)	7 (58.33%)
501-1000	25 (20.16%)	17 (68.00%)
over 1000	55 (44.35%)	38 (69.09%)
<b><i>Annual turnover</i></b>		
10-25 mil EUR	29 (23.38%)	17 (58.62%)
>25-50 mil EUR	13 (10.48%)	8 (61.53%)
>50-100 mil EUR	18 (14.51%)	13 (72.22%)
over 100 mil EUR	65 (52.41%)	40 (61.53%)

*Table 4: Sample structure  
(Source: author)*

With regard to the initial sampling framework of medium and large companies (according to total number of employees and annual turnover), Table 4 shows that the final sample with around 33% of medium and 66% of large companies is adequate for data analysis. Limited companies and public listed companies are the most common legal form of the company, comprising about 42% and 33% of the research sample respectively. Also, considering the company distribution according to the position in the supply chain, it can be concluded that the research sample covered the entire ascending part of the automotive supply chain, from raw material suppliers to assembly plants and original equipment manufacturers (OEM). Finally, if we analyze the AM adoption in production processes, it can be noticed that the share of companies using AM exceeds 50% in all parts of the supply chain, with the highest share in OEM-s (75%). Also, it can be noticed that the number of AM adopters slightly increases with the number of employees and annual turnover. For instance, 69% of large companies whose number of employees exceeds 1,000 have adopted AM in the production processes, while the proportion of AM adopters among medium-sized companies (with less than 100 employees) is slightly above 40%. Also, considering the annual turnover, over 70% of large companies (> 50 mil EUR annual turnover) are AM adopters, while the share of medium-sized AM adopters (< 25 mil EUR annual turnover) is less than 60%. These results are not surprising considering that the neoclassical theory suggests that large companies are vertically integrated and capital-intensive in order to achieve economies of scale (Kovacevic, 2015).



<b>Respondents position in the company</b>	<b>n (%)</b>
Corporate executive	29 (23.38%)
Production manager	26 (20.96%)
Purchasing manager	5 (4.03%)
Quality manager	16 (12.90%)
Distribution manager	4 (3.22%)
Sales manager	10 (8.06%)
R&D manager	16 (12.90%)
Supply chain manager	6 (4.83%)
Other	12 (9.67%)

*Table 5: Sample structure by the position in the company  
(Source: author)*

Table 5 shows the sample structure according to the respondents' position in the company. The largest share of the respondents are CEO (23.38%), because most of the available e-mail addresses in the Amadeus database were from the company CEO. Production managers (20.96%) and R&D managers (12.9%) are the second largest group of research participants, since they are best qualified to fill the research questionnaire. The rest of respondents providing good professional insights are also competent to answer the research questions.

<b>Country</b>	<b>The use of additive manufacturing in production processes</b>		
	Yes	No	Total
Austria	1	-	1
Belgium	1	2	3
Czech Republic	5	7	12
Finland	-	1	1
France	16	1	17
Croatia	10	-	10
Italy	10	8	18
Hungary	1	1	2
Netherlands	2	-	2
Germany	16	10	26
Portugal	2	2	4
Romania	-	1	1
Slovakia	1	1	2
Slovenia	-	3	3
Spain	1	-	1
Sweden	-	1	1
United Kingdom	14	6	20
<b>TOTAL</b>	<b>78 (62.90%)</b>	<b>46 (37.09%)</b>	<b>124</b>

*Table 6: The use of additive manufacturing in production processes by country  
(Source: author)*

Table 6 shows the AM adoption in production processes by EU member states who participated in a research survey. Considering the leading countries in the production of motor vehicles and motorcycles (Czech Republic, France, Italy, Germany, UK), over 60% of companies have adopted AM in their production processes. Interestingly, although production of motor vehicles in Croatia does not take up a large share in the production activities, all Croatian companies

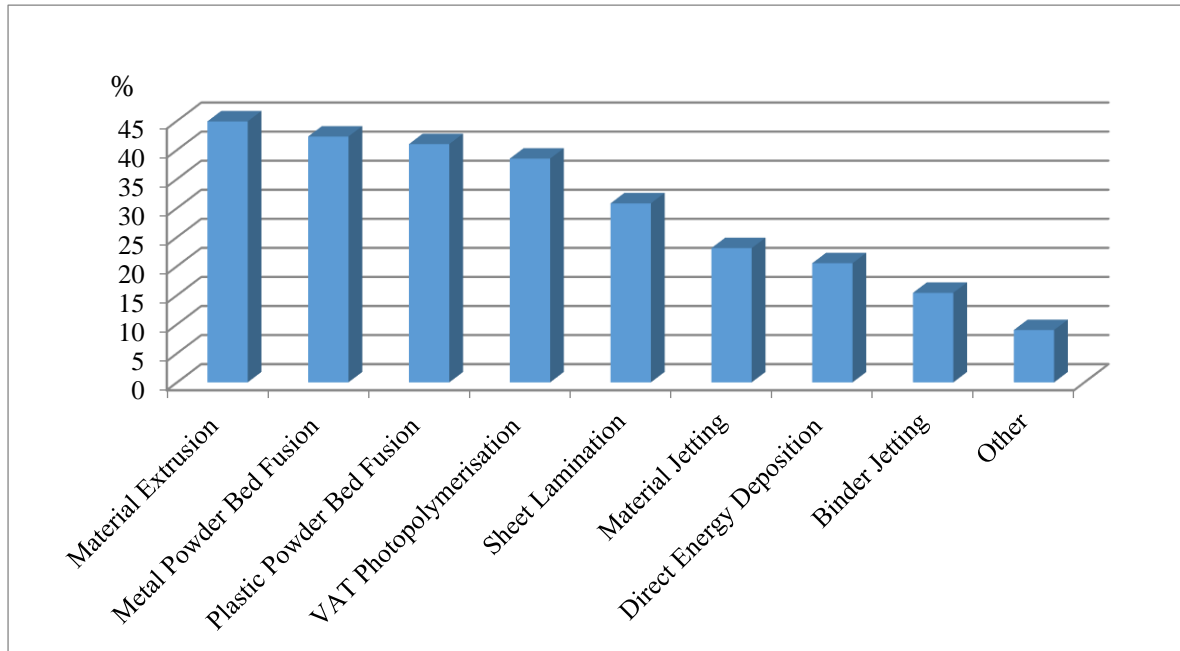
from the sample already adopted AM in their production processes. Even though Croatian market does not stimulate production development, active companies in automotive sector are forced to constantly invest in new production processes and innovation in order to compete with companies from highly developed European markets.

Variables	Min value	Max value	Mean	Variables	Min value	Max value	Mean
AM1	3	5	4.31	AM_F1	2	5	4.49
AM2	1	5	3.77	AM_F2	1	5	4.28
AM3	1	5	4.13	AM_F3	1	5	4.42
AM4	1	5	3.63	AM_F4	1	5	3.97
AM5	1	5	3.37	AM_F5	1	5	4.01
AM6	1	5	3.46	AM_F6	1	5	3.86
AM7	1	5	3.54	AM_F7	1	5	3.95
AM8	1	5	3.46	AM_F8	1	5	3.87
AM9	1	5	3.46	AM_F9	1	5	3.96
AM10	1	5	2.95	AM_F10	1	5	3.38
AM11	1	5	4.06	AM_F11	1	5	4.35
AM12	1	5	3.60	AM_F12	1	5	4.00
AM13	1	5	3.77	-	-	-	-
AM14	1	5	3.77	-	-	-	-
<b>Total average</b>	-	-	<b>3.66</b>	<b>Total average</b>	-	-	<b>4.04</b>

*Table 7: The average value of the responses to individual questions for existing level of AM adoption and within next 10 years  
(Source: author)*

In order to get insight into the AM adoption of European automotive supply chains, Table 7 analyzes responses on each of the issues related to the AM adoption in production processes today and within the next 10 years. Based on all AM adoption variables, the average score in terms of the level of AM satisfaction and adoption is calculated. The arithmetic mean (3.66) shows that respondents from the sample rated the AM adoption in production processes as very good, which is in line with an average satisfaction level of respondents with AM adoption in their company (3.77). The highest rating is given to the level of computer-aided design (CAD) adoption (4.31) and the level of AM adoption in product visualization (4.13). Unexpectedly, however, the lowest rating is assigned to the AM adoption in tooling (3.37) although the existing literature points out that additive manufacturing technologies have revolutionized tooling and mold production. On the other hand, relatively high rating is given to the level of AM adoption in direct part manufacturing (3.54) although majority of researchers consider additive manufacturing technologies as production innovations in its infancy. Considering the AM adoption in the production of specific automotive product categories (PAT9 - PAT12), the highest rating is assigned to the AM adoption in the production of complex assemblies consisting of several components (4.06) while the lowest rating is assigned to AM adoption in the production of vehicle model specific components (2.95). Based on these findings, it can be concluded that there are further possibilities for improving the AM adoption in the selected companies. In order to get insight into the perspective development of AM adoption in production processes of European automotive supply chains, Table 7 analyzes the responses on each of the issues related to the AM adoption in production processes in the next 10 years. Based on all the AM adoption variables, the average score in terms of the level of further AM

adoption is calculated (4.04) showing that respondents from the sample will probably continue to invest in AM adoption in the future. Again, the highest rating is given to the level of computer-aided design (CAD) adoption (4.49) and the level of AM adoption in product visualization (4.42), while the lowest rating is assigned to the AM adoption in maintenance and repair (3.87). Encouraging fact is that AM adoption in direct part manufacturing generated almost the same average score (3.95) as the AM adoption in prototyping (3.97).



*Figure 3: The use of different types of AM in automotive production processes  
(Source: author)*

In the context of the AM adoption in the production of specific automotive product categories (PAT\_F9 – PAT\_F12) in next 10 years, the highest rating is assigned to the AM adoption in the production of complex assemblies consisting of several components (4.35), while the lowest rating is assigned to AM adoption in the production of vehicle model specific components (3.38). This shows that AM is likely to equalize with other production technologies in automotive direct part manufacturing through the next 10 years. Precisely the same scenario provides most of the existing literature on AM. For instance, SmarTech (2015) expects the automotive industry will take the leading position in the AM adoption in production processes. Finally, Figure 3 shows the share of different types of AM in the automotive supply chain production processes. According to the data from the Figure 3, the Material Extrusion is most widely used type of AM (44.9%), including one of the most popular AM processes in the automotive industry - Fuse Deposition Modelling (FDM). The second most common type of AM is Metal Powder Bed Infusion (42.3%), including the processes of Direct Metal Laser Sintering (DMLS), Selective Heat Sintering (SHS), Selective Laser Melting (SLM) and Electron Beam Melting (EBM). The third category is the Plastic Powder Bed Fusion (41.0%), including the process of Selective Laser Sintering (SLS). The fourth most common AM category is VAT photopolymerization (38.5%), which encompasses the oldest and the most frequently used technology, Stereolithography (SLA). An interesting fact is that the Binder Jetting is the least represented type of AM (15.4%), even though 3D printing technologies caused the greatest popularity in the professional and scientific literature in recent years. Of the total number of respondents (n=124), 78 manufacturing companies adopted AM in their production processes and those will be the pattern for further empirical analysis.

	AM adopters				AMP non-adopters			
Barrier	Mean	Min	Max	St. deviation	Mean	Min	Max	St. deviation
Cost of equipment	3.76	2	5	.840	3.46	1	5	.959
Lack of professional qualifications and skilled labor to run the equipment	3.15	1	5	.955	3.07	1	5	1.041
Lack of understanding relevant opportunities of additive manufacturing adoption	3.08	1	5	1.042	3.09	1	5	1.112
Lack of suppliers and supporting vendors	2.99	1	5	1.075	2.89	1	5	.900
Lack of support from company decision makers	2.94	1	5	1.061	3.11	1	5	1.016
Limited build envelopes of current technologies	3.23	1	5	.979	3.24	1	5	1.079
Limited to low volume production	3.26	1	5	1.025	3.39	1	5	1.256
AM materials limitations	3.44	2	5	.906	3.04	1	5	1.010
Reduced AM-manufactured product quality and reliability	3.23	1	5	1.068	2.98	1	5	1.000
Lack of automated finishing processes	3.26	1	5	1.098	3.00	1	5	1.075

*Table 8: The influence of identified barriers on additive manufacturing adoption in automotive supply chain – AM adopters and non-adopters  
(Source: author)*

In accordance to one of the fundamental paper objectives, which refers to the analysis of intensity to which technical and non-technical barriers affect the possibility of AM adoption in the company production processes within the automotive supply chain, a comprehensive study of the relevant literature identified barrier variables that hinder the AM adoption in production processes. In the part of the questionnaire respondents are asked to rank identified barrier variables to AM adoption according to significance. Table 8 shows the research results on the influence of identified barrier variables to AM adoption in both groups of respondents, AM adopters and AM non-adopters. The greatest significance is assigned to cost of equipment with an average score (3.76) for AM adopters, or (3.46) for AM non-adopters. 16 respondents from the AM adopters sample (20.50%) and 6 respondents from the AM non-adopters sample (13.00%) have given the greatest significance to the cost of equipment barrier. According to opinions and evaluations of AM adopters, the second most important barrier is the limitations in existing materials with an average score of (3.44), while the second most important barrier for AM non-adopters is limited to low volume production with (3.39) average score. Third barrier to AM adoption in production processes among AM adopters are limited to low volume production and the lack of automated finishing processes with an average score of (3.26).

Finally, third barrier to AM adoption in production processes among AM non-adopters is limited build envelopes of current technologies with an average score of (3.24). The lowest average score among AM adopters generated the lack of support from company decision makers barrier (2.94 average rating), or the lack of suppliers' barrier among AM non-adopters with an average score of (2.89). According to one of the paper objectives, the research hypothesis assumes *those identified barrier variables to AM adoption negatively, but with different intensity affect the possibility of AM adoption in the automotive supply chain*. The following table shows the correlation coefficients of the relationship between the AM adoption and the identified barrier variables.

	AM adoption
Cost of equipment	-0.053
Lack of professional qualifications and skilled labor to run the equipment	0.019
Lack of understanding relevant opportunities of additive manufacturing adoption	0.061
Lack of suppliers and supporting vendors	0.015
Lack of support from company decision makers	0.132
Limited build envelopes of current technologies	0.016
Limited to low volume production	0.085
AM materials limitations	-0.160
Reduced AM-manufactured product quality and reliability	-0.084
Lack of automated finishing processes	-0.083

*Table 9: The correlation matrix of the relationship between the AM adoption and the identified barriers to adoption*  
(Source: author)

Correlation analysis showed the significant negative relationship between the AM adoption and the cost of the equipment. The above can be explained with the fact that the use of AM in production processes requires significant financial investment primarily in equipment, and this barrier to AM adoption is most frequently mentioned barrier in the existing technical and scientific literature in the field of AM adoption. On the other hand, correlation analysis showed the positive relationship between the AM adoption and the lack of professional qualifications and skilled labor to run the equipment. One possible interpretation of such relationship may be the fact that, despite the ignorance of the existing professional staff, managers decide to invest in the additive manufacturing technologies out of fear of lagging behind the existing market competition. Correlation analysis showed the positive relationship between the AM adoption and the lack of understanding relevant opportunities of AM adoption. One possible interpretation of such relationship may be the fact that, despite the ignorance of the possibilities of AM adoption, managers decide to invest in the AM also out of fear of lagging behind the existing market competition. Also, correlation analysis showed the positive relationship between the AM adoption and the lack of suppliers and supporting vendors. The above can be explained with the fact that the lack of suppliers' companies do not consider as the direct limitation of AM, but only as an aggravating circumstance that can possibly affect the speed of the production process due to the lack of raw materials. For this reason, regardless of the specified barrier companies decide to invest in new production processes. The positive relationship has been proven between the AM adoption and the lack of support from company decision makers. One possible interpretation of such relationship may be the fact that the lack of support from management or company decision makers may be considered as an advantage over the long term because it allows better assessment of the decision to invest in new technologies.

Then, correlation analysis showed the positive relationship between the AM adoption and the limited build envelopes. The above can be explained with the fact that despite the existence of certain restrictions in the production process companies are far more aware of the potential possibilities of AM adoption and therefore decide to invest in new production processes. There is also positive relationship between the AM adoption and the limited to low volume production. One possible interpretation of this relationship can be the fact that companies do not consider AM as a possible replacement for the processes used in mass production, but perceive AM as a new tool for the production of geometrically highly complex products that other processes cannot produce. Finally, correlation analysis showed the significant negative relationship between the AM adoption and the AM materials limitations, between the AM adoption and the reduced AM-manufactured product quality and reliability and between the AM adoption and the lack of automated finishing processes. Considering the correlation analysis results and the identified barrier variables, the following can be concluded: the hypothesis is partly accepted since the cost of equipment, limitations in existing materials, low levels of product quality and lack of automated finishing process showed negative effect on the AM adoption in the automotive supply chain (correlation coefficient from -0.053 to -0.160), while other identified barrier variables showed positive effect on the AM adoption (correlation coefficient from 0.015 to 0.132).

## **5. CONCLUSION**

The aim of this paper was to examine the elements of AM adoption and the variables resulting from the adoption of this production concept in the context of supply chain. Also, this paper identified and conceptualized barriers that mostly limit the AM adoption among automotive supply chain companies. In contrast to previous studies that were qualitative or examined only technical characteristics of AM adoption, this study provides a comprehensive examination of the relationships of AM adoption dimensions with technical and non-technical barriers to AM adoption. Furthermore, by using the correlation analysis approach, this study delivers objective criteria for the evaluation of these relationships. The empirical results reveal different influences of identified barriers to AM adoption. In particular, the cost of equipment, limitations in existing materials, low levels of product quality and lack of automated finishing process showed negative effect on the AM adoption in the automotive supply chain, while other identified barrier variables showed positive effect on the AM adoption. Based on these results, this paper provides rich insights for both managers and researchers on the significance of identified technical and non-technical barriers in order to successfully adopt AM concept in the context of automotive supply chain.

### **5.1. Implications for theory**

This paper makes several important contributions to the literature in the field of AM adoption. The conceptual contribution of the paper is reflected in the comprehensive review of existing knowledge and delimitation of many concepts and relationships that have not been clearly defined in the literature. In addition to the systematic and comprehensive review of the literature and critical analysis of previous research in the field of AM adoption, the contribution of this paper is the fact that this is the first comprehensive study of AM barriers to adoption in the automotive supply chain, as one of the fastest growing industries in the adoption of this production concept. Furthermore, previous studies in the field of AM adoption in supply chains were mainly based on an examination of the technical characteristics of using AM, while the issue of the level of AM adoption, in order to quantify the influences on supply chain dimensions and business results, has not been studied so far. Although Waller and Fawcett (2014) invited researchers to study indirect mechanisms through which the AM adoption affect the supply chains and company performance, subsequent literature has focused mainly on

examining technical characteristics of AM adoption. This paper developed and examined the reliability and internal consistency of new AM adoption variable enabling the quantification of this production concept for further research. The following contribution is that the paper detected major technical and non-technical barriers to AM adoption in automotive industry. Previous research emphasized the limitations to AM adoption in general (e.g., Bianchi and Ahlstrom, 2014; Bourell et al., 2009; Eysers, 2015; Feloy et al., 2013; Gu et al., 2014; Holweg, 2015; Ranganathan, 2007; Romouzy Ali, 2005; Stratasys, 2015; Walter et al., 2004). The present study contributes details to this discussion by identifying major barriers to AM adoption in automotive supply chain context. The final major contribution is the nature of this study as quantitative empirical research on the influence of previously identified barriers to the level of AM adoption in the automotive supply chain, also unexplored issue so far. Thus, by examining the correlation coefficients of the relationship between the AM adoption and the identified barrier variables, the present study is affiliated with the original roots of the concept and contributes to the limited research examining the significance of the impact of technical and non-technical barriers to the level of AM adoption in automotive supply chain. Further, given the qualitative nature of AM issues, the concept has mainly been examined by theoretical or qualitative empirical studies, resulting in a lack of quantitative support for the findings (e.g. Feloy et al., 2013; Ranganathan, 2007; Romouzy Ali, 2005; Stratasys, 2015). Hence, this quantitative study contributes to closing this research gap.

## 5.2. Implications for practice

Except theoretical contributions, this study has several important implications for practice, especially managers in automotive supply chain companies. Applicative contribution to managers, arising from the theoretical and empirical research results, is the classification of the most important activities of AM adoption in order to improve the supply chain and company performance. Given that AM adoption is a relatively new production concept, the research has great practical significance for those companies that are introducing or are still preparing to introduce this concept of production in their business processes. Therefore, the results may serve to managers for making better strategic and tactical decisions when introducing AM in their production processes. Moreover, at the company level, the analysis showed the intensity of the influence of identified barriers to the level of AM adoption. Therefore, the company management in the automotive supply chain can use the proposed conceptual framework for improving the production strategies and policies.

## LITERATURE:

1. ACEA report (2020). *ACEA: COVID-19: Jobs of over 1.1 Million EU Automobile Workers Affected so Far, Data Shows*. Retrieved 02.06.2022. from: <https://www.automotive-world.com/news-releases/acea-covid-19-jobs-of-over-1-1-million-euautomobile-workers-affected-so-far-data-shows/>
2. Ahmad, A., Mazhar, M.I., Howard, I. (2011). *A systems approach for the effective adoption of rapid prototyping for SMEs*. In: Proceedings of the 2011 International Conference on Industrial Engineering and Operations Management. Kuala Lumpur, Malaysia.
3. ASTM International, (2012). *Standard Terminology for Additive Manufacturing Technologies*. Retrieved 02.10.2021. from: <http://web.mit.edu/2.810/www/files/readings/AdditiveManufacturingTerminology.pdf>
4. Baker, K. (2013). *From tires to interiors, Bentley designs with 3D printing*. Retrieved 02.10.2021. from: <http://www.stratasys.com/resources/case-studies/automotive/bentley-motors>
5. Barnatt, C. (2013). *3D Printing: The next industrial revolution*. Create Space Independent Publishing Platform.

6. Bauereiß, A., Scharowsky, T., Korner, C. (2014). *Defect generation and propagation mechanism during additive manufacturing by selective beam melting*. Journal of Materials Processing Technology, 214 (11), pp. 2522–2528.
7. Bianchi, M., Ahlstrom, P. (2014). *Additive manufacturing: towards a new operations management paradigm?*. POMS 25th Annual Conference. Retrieved 02.10.2021. from: <http://www.pomsmeetings.org/confpapers/051/051-0376.pdf>
8. Bourell, D.L., Leu, M.C., Rosen, D.W. (2009). *Roadmap for additive manufacturing identifying the future of freeform processing*. In: The Roadmap for Additive Manufacturing (RAM) Workshop, Washington.
9. Caffrey, T., Wohlers, T.T. (2015). *Wohlers Report 2015*. Fort Collins, Colorado: Wohlers Associates Inc.
10. Chantzis, D., Van der Veen, S., Zettler, J. (2013). *An industrial workflow to minimize part distortion for machining of large monolithic components in aerospace industry*. Procedia CIRP, 8, pp. 281–286.
11. Cotteleer, M., Joyce, J. (2014). *3D Opportunity: Additive manufacturing paths to performance, innovation, and growth*. Deloitte Review, 14, pp. 5-19.
12. Cotteleer, M., Holdowsky, J., Mahto, M. (2013). *The 3D opportunity primer – The basics of additive manufacturing*. Deloitte University Press, series on additive manufacturing Retrieved 02.10.2021. from: <http://dupress.com/articles/the-3d-opportunity-primer-the-basics-of-additive-manufacturing/>
13. CSC (2012). *3D printing and the future of manufacturing*. Retrieved 02.10.2021. from: [http://assets1.csc.com/innovation/downloads/LEF\\_20123DPrinting.pdf](http://assets1.csc.com/innovation/downloads/LEF_20123DPrinting.pdf)
14. DeliĆ, M. (2020). *Technology adoption model for 3DP – the case of the automotive industry*. In: Managing 3D Printing (ed. Eysers, D.R.), Palgrave Macmillan, pp.25-44.
15. Dillman, D.A., Phelps, G., Tortora, R., Swift, K., Kohrell, J., Berck, J., Messer, B.L. (2009). *Response rate and measurement differences in mixed-mode surveys using mail, telephone, interactive voice response (IVR) and the Internet*. Social Science Research, 28, pp. 1-18.
16. Droge, C., Jayaram, J., Vickery, S.K. (2004). *The effects of internal versus external integration practices on time-based performance and overall firm performance*. Journal of Operations Management, 22 (6), pp. 557-573.
17. Eysers, D.R. (2015). *The Flexibility of Industrial Additive Manufacturing Systems*. PhD thesis. Cardiff University, Cardiff.
18. Feloy, M., Dsouza, R., Jones, R., Bayliss, M. (2013). *Technology and Skills in the Aerospace and Automotive Industries*. UKCES.
19. Frederico, G.F. (2020). *Towards a supply chain 4.0 on the post-Covid-19 pandemic: a conceptual and strategic discussion for more resilient supply chains*. Rajagiri Management Journal, 15 (2), pp. 94-104.
20. Gausemeier, J. (2013). *Thinking ahead the Future of Additive Manufacturing – Innovation Roadmapping of Required Advancements*. Heinz Nixdorf Institute, University of Paderborn. Retrieved 02.10.2021. from: [http://dmrc.uni-paderborn.de/fileadmin/dmrc/Download/data/DMRC\\_Studien/DMRC\\_Study.pdf](http://dmrc.uni-paderborn.de/fileadmin/dmrc/Download/data/DMRC_Studien/DMRC_Study.pdf)
21. Giffi, C. A., Gangula, B., Illinda, P. (2014). *3D opportunity in the automotive industry - additive manufacturing hits the road*. A Deloitte series on additive manufacturing, Deloitte University Press. Retrieved 02.10.2021. from: <http://dupress.com/articles/additive-manufacturing-3d-opportunity-in-automotive/>
22. Gibson, I., Rosen, D.W., Stucker, B. (2010). *The use of multiple materials in additive manufacturing*. In: Additive Manufacturing Technologies, pp. 436-449.



23. Gooch, J. (2013). *Point-Counterpoint: Additive vs. Subtractive Rapid Prototyping*. Retrieved 02.10.2021. from: <http://www.rapidreadytech.com/2013/09/point-counterpoint-additive-vs-subtractive-rapid-prototyping/>
24. Goyal, S., Grover, S. (2012). *Advanced manufacturing technology effectiveness: A review of literature and some issues*. *Frontiers of Mechanical Engineering*, 7 (3), pp. 256-267.
25. Gu, D., Wang, H., Zhang, G. (2014). *Selective laser melting additive manufacturing of Ti-based nanocomposites: the role of nanopowder*. *Metallurgical and Materials Transactions*, 45 (1), pp. 464-476.
26. Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E. (2010). *Multivariate data analysis*. 7th Edition. Prentice Hall.
27. Holweg, M. (2015). *The Limits of 3D Printing*. *Harvard Business Review*. Retrieved 02.10.2021. from: <https://hbr.org/2015/06/the-limits-of-3d-printing>
28. Holweg, M. (2002). *The Three-day Car Challenge - Investigating the Inhibitors of Responsive Order Fulfilment in New Vehicle Supply Systems*. PhD Thesis. Cardiff University, Cardiff Business School.
29. Ivanova, O., Williams, C., Campbell, T. (2013). *Additive manufacturing (AM) and nanotechnology: promises and challenges*. *Rapid Prototyping Journal*, 19 (5), pp. 353-364.
30. Kaitwade, N. (2020). *COVID-19 shatters global automotive industry; sales of metal powder take a nosedive amid wavering demand*. *Metal Powder Report*, 76 (3), pp. 137-139.
31. Kline, R.B. (2011). *Principles and Practices of Structural Equation Modeling: Third Edition*. The Guilford Press, New York.
32. Kovacevic, Z. (2015). *Theories of enterprises*. Retrieved 02.10.2021. from: [http://web.efzg.hr/dok/MGR/mpenava/industrijska%20politika/IP\\_Teorije%20poduze%C4%87a%20FULL%20TEKST.pdf](http://web.efzg.hr/dok/MGR/mpenava/industrijska%20politika/IP_Teorije%20poduze%C4%87a%20FULL%20TEKST.pdf)
33. Kruth, J.P., Froyen, L., Van Vaerenbergh, J. (2004). *Selective laser melting of iron-based powder*. *Journal of Materials Processing Technology*, 149 (1-3), pp. 616-622.
34. Leuders, S., Thone, M., Riemer, A. (2013). *On the mechanical behaviour of titanium alloy TiAl6V4 manufactured by selective laser melting: fatigue resistance and crack growth performance*. *International Journal of Fatigue*, 48, pp. 300-307.
35. MacCormack, D. (2017). *Sensationalism and Snobbery in the 3D Printing Industry!*. Retrieved 02.10.2021. from: <http://mcortechtechnologies.com/sensationalism-snobbery-3d-printing-industry/>
36. Mellor, S., Hao, L., Zhang, D. (2014). *Additive manufacturing: A framework for implementation*. *International Journal of Production Economics*, 149, pp. 194-201.
37. Murphy, T., Gray, H., Cotteler, M. (2015). *3D opportunity for the future: Industry participants speak out*. *Deloitte Review*, 17, pp. 147-165.
38. Muhammad, M.s., Kerbach, L., Elomri, A. (2021). *Potential of additive manufacturing for upstream automotive supply chains*. *Supply Chain Forum: An International Journal*, 23 (1), pp. 1-19.
39. Park, R. (2017). *Disruptive insight editorial comment*. Retrieved 02.10.2021. from: <http://www.disruptivemagazine.com/opinion/disruptive-insight-editorial-comment-issue-4>
40. Ranganathan, R. (2007). *Rapid Manufacturing as an enabling technology in supply chain improvements*. PhD Thesis. Loughborough University.
41. Reeves, P.E., Tuck, C., Hague, R. (2011). *Additive Manufacturing for Mass Customization*. In: Fogliatto, F.S., Da Silveira, G., eds. *Mass Customization: Engineering and Managing Global Operations*. London: Springer.
42. Romouzy Ali, A.M. (2013). *A Strategy to Deploy Rapid Prototyping within SMEs*. PhD thesis. Bournemouth University.

43. Sanchez, A.M., Perez, M.P. (2003). *Cooperation and the ability to minimize the time and cost of new product development within the Spanish automotive supplier industry*. Journal of Product Innovation Management, 20, pp. 57-69.
44. Schmid, G. (2013). *Manufacturing Jigs and Fixtures with FDM*. Retrieved 02.10.2021. from: <http://www.stratasys.com/resources/case-studies/automotive/bmw>
45. Schoinochoritis, B., Chantzis, D., Salonitis, K. (2015). *Simulation of metallic powder bed additive manufacturing processes with the finite element method: A critical review*. Journal of Engineering Manufacture, pp. 1-22.
46. Shipp, S., Gupta, N., Scott, J.A., Weber, C.L., Finnin, M.S., Blake, M., Newsome, S., Thomas, S. (2012). *Emerging Global Trends in Advanced Manufacturing*. Institute for Defense Analyses.
47. SmarTech Markets Publishing (2015). *Additive Automotive: Advancing 3D Printing Adoption In the Automotive Industry*. Retrieved 02.10.2021. from: <https://www.smartechpublishing.com/reports/additive-manufacturing-opportunities-in-the-automotive-industry-a-ten-year>
48. Srivatsan, T.S., Sudarshan, T.S. (2015). *Additive Manufacturing: Innovations, Advances, and Applications*. Florida: CRC Press, Taylor & Francis Group.
49. Stratasys (2015). *Trend forecast: 3D Printing's Imminent Impact on Manufacturing*. Retrieved 02.10.2021. from: [https://www.stratasysdirect.com/content/pdfs/sys\\_trend-forecast\\_v10.pdf](https://www.stratasysdirect.com/content/pdfs/sys_trend-forecast_v10.pdf)
50. Stratasys (2013a). *Direct digital manufacturing at BMW*. Retrieved 02.10.2021. from: <http://www.stratasys.com/resources/case-studies/automotive/bmw>
51. Stratasys (2013b). *Jaguar Land Rover finds competitive advantage with multi-material 3D printer*. Retrieved 02.10.2021. from: <http://www.stratasys.com/resources/case-studies/automotive/jaguar-land-rover>
52. Tareq, M.S., Rahman, T., Hossain, M., Dorrington, P. (2020). *Additive Manufacturing and the COVID-19 challenges: An in-depth study*. Journal of Manufacturing systems, 60, pp. 787-798.
53. Tenenhaus, M., Vinzi, V.E., Chatelin, Y.M., Lauro, C. (2005). *PLS path modeling*. Computational Statistics & Data Analysis, 48, pp. 159-205.
54. Tuck, C.J., Hague, R.J.M. (2006). *The pivotal role of rapid manufacturing in the production of cost-effective customised products*. International Journal of Mass Customisation, 1(2/3), pp. 360-373.
55. Waller, M., Fawcett, S.E. (2014). *Click Here to Print a Maker Movement Supply Chain: How Invention and Entrepreneurship Will Disrupt Supply Chain Design*. Journal of Business Logistics, 35(2), pp. 99-102.
56. Walter, M., Holmström, J., Yrjölä, H. (2004). *Rapid Manufacturing and its impact on supply chain management*. In: Logistics Research Network Annual Conference. Dublin, Ireland. Retrieved 02.10.2021. from: [http://legacy-tuta.hut.fi/logistics/publications/LRN2004\\_rapid\\_manufacturing.pdf](http://legacy-tuta.hut.fi/logistics/publications/LRN2004_rapid_manufacturing.pdf)
57. White, G., Lynskey, D. (2013). *Economic Analysis of Additive Manufacturing for Final Products: An Industrial Approach*. Retrieved 02.10.2021. from: <http://136.142.82.187/eng12/history/spring2013/pdf/3039.pdf>
58. Wilden, R., Gudergan, S. P., Nielsen, B. B., Lings, I. (2013). *Dynamic Capabilities and Performance: Strategy, Structure and Environment*. Long Range Planning, 46 (1-2), pp. 72-96.
59. Wohlers, T. (2012). *Wohlers Report 2012*. Fort Collins, Colorado: Wohlers Associates Inc.
60. Wohlers, T. (2019). *Wohlers Report 2019*. Fort Collins, Colorado: Wohlers Associates Inc.

# COMMUNITY-BASED TOURISM ORGANISATION AND GOVERNANCE MODELS: CHALLENGES OF IMPLEMENTATION

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## **ABSTRACT**

*Community-based tourism (CBT) is a concept relevant to the implementation of sustainable tourism practices in the operational planning and management of tourism supply at the local level. Although it has been discussed and implemented in various forms and initiatives over the past thirty years, there are significant challenges that prevent the concept from expanding. This paper offers new insights into the relationship between specific barriers to implementing community-based tourism and the choice of organizational structure and governance model of CBT initiatives. A careful analysis of academic literature and previous research, as well as manuals and handbooks related to the practical implementation of CBT, was conducted. The findings highlight the complex pattern of factors influencing the successful implementation of CBT in practice and demonstrate the need for systematic, coordinated and continuous efforts to create an efficient, resilient and manageable organizational structure and to decide on an appropriate governance model that maximizes the benefits for the whole local community.*

**Keywords:** *community-based tourism, governance, local community, organisational model, stakeholders*

## **1. INTRODUCTION**

In these challenging times of constant change and unexpected events, tourism needs more than ever to be sustainable by providing economic and social benefits to host communities while seeking to minimize negative impacts on the environment. Community-based tourism (CBT) is a sustainable tourism model that is planned, developed, owned and managed by the community for the community and is based on collective decision-making, responsibility, access, ownership, and benefits (Tasci et al., 2013). In practice, CBT is often used as an umbrella term for a wide range of local initiatives managed and owned by the community and for the community (Asker et. al, 2010). What distinguishes CBT from other forms of the more general term "sustainable tourism" (e.g., green tourism or ecotourism) is the basic principle of retaining responsibility for planning, managing, and controlling tourism activities among community members and ensuring equitable distribution of benefits and costs generated by tourism activities. The organizational aspects of CBT are difficult to generalize, as CBT projects can be led by different local (or even noncommunity) actors from the public, private, and nongovernmental sectors. Different combinations between sectors are also possible, and both top-down and bottom-up approaches can be used (Mtapuri and Gianpiccoli, 2016). Among six key principles of CBT identified by Dodds and associates (2016), three are directly focused on ensuring community participation and empowering its members to work together to establish local management and control over tourism development. Community-based tourism without active "community" participation is not consistent with the basic concept and principles of CBT, but the overall extent and nature of such participation are neither specified nor targeted to specific (or all) stages of the process (e.g., tourism planning, involvement in financing, operational management of tourism supply, benefit-sharing decision-making, evaluation of the success of tourism activities, etc.). Therefore, this paper discusses organisational elements and governance models as critical "building blocks" for ensuring community members' participation in CBT development.

First, key barriers to the CBT development process were identified and analysed in terms of their impact on the choice of organisational structure and governance model for CBT implementation. These barriers and challenges are closely related to the formal organisation of CBT initiatives (form, hierarchy and distribution of roles, funding mechanism, and the overall governance model that addresses the involvement of organisations/individuals from the public, private, and civil sectors), and it can be assumed that a high-quality organisational structure and an effective governance model, along with effective empowerment of community members, could be critical to resolving many of the barriers identified above. Facilitating factors related to organisation and governance identified as important for CBT success are analysed from several manuals and handbooks, as interesting practical aspect relevant for understanding the complexity of the topic. This paper offers new insights into this topic, through analysing existing identified barriers related to CBT from the perspective of their importance for organisation and governance elements. Additionally, paper presents most important recommendations on mechanisms of organising CBT selected from implementation manuals, as very important yet to some point neglected sources of practice-related information.

## **2. RELATIONSHIP BETWEEN KEY BARRIERS TO CBT DEVELOPMENT AND CHOICE OF ORGANISATIONAL MODELS AND GOVERNANCE OF CBT INITIATIVES**

As outlined in the introductory section of the paper, much work has been done to identify the main challenges/barriers/obstacles that prevent more active participation of local people in tourism planning and development, as well as the overall management of tourism activities in line with the broader needs and interests of host communities. The main challenges include: the unwillingness of tourism stakeholders to share power, the centralization of authorities, the domination of elites or the enrichment of economic and political power of existing elites (Mustapha, Azman and Ibrahim, 2013; Kontogeorgopoulos et al., 2014), absence of ownership sense, the insufficient job creation, the information deficit and the uneven structure of tourism authorities (Stone and Stone, 2011), the lack of knowledge about tourism in general and its functioning, the lack of time for intensive participation (Kala and Bagri, 2018), etc. As a basis for discussing the organizational aspects of CBT, the work of Zielinski and associates (2020) is used as one of the most comprehensive and up-to-date analyzes on this topic. The barriers they identified through a comprehensive review of the existing literature are grouped in the first column of Table 1 and presented based on similar impacts/relationships on CBT organization and governance. Each group of barriers was discussed in terms of the strength of their impact on CBT governance and the choice of an appropriate organizational structure for CBT management to prevent or at least reduce the impact of the identified barriers

*Table following on the next page*

Groups of barriers (source Zielinski et al. 2020)	Relationship with organization, structure and governance model of CBT
Lack of skills and expertise in areas required for the operation of tourism	<p>The first group of barriers is mostly due to the lack of the necessary knowledge, skills and expertise of the locals. A related problem, often resulting from the lack of up-to-date knowledge, is the insistence on "old" methods and approaches to tourism management and development, which are often in direct opposition to sustainable tourism development efforts.</p> <p>Although this is a very common situation in local communities in remote and/or rural areas that are in the process of transitioning from agriculture to tourism, the availability of various educational opportunities (including online-based courses) allows motivated individuals and organisations to gain additional skills and knowledge in this area.</p> <p>The initial choice of organisational structure and governance model in this case can also be suggested by experts outside the community, and the new CBT organisation should have educational programmes as one of the focal points of its activities to attract and motivate local people to participate in tourism.</p>
Exclusion of basic training in tourism management or inappropriate capacity building (GOV/NGO)	
No clarity about tourism, its costs and benefits and ways in which communities could participate	
Conflict between traditional resource use practices with conservation objectives	
High dependence on resource consumptive activities	
No or poor community control over land and resources	<p>The key assumption in discussing the development potential of CBT is that the local community in question (usually through the public sector and/or political administrative structures at the local level) has some degree of control over tourism resources or a real ability to influence further tourism development. This is not always the case, especially in centralized countries with strong influence of private investors on local tourism development.</p> <p>This power imbalance between the local community and external stakeholders is a common barrier to CBT success in the early stages, and this is even more evident in situations where external stakeholders with financial interests have gained significant legitimacy and significant formal role in local tourism development, which allows them to enforce their plans without consulting local community and/or making compromises.</p> <p>In this situation, CBT's organizational structure and governance model should focus more on awareness-raising and use models and activities typical for civil society organisations in order to be recognized as a player in future tourism plans. Activities such as education, development of new sustainable tourism offerings, marketing, and the like should not take place until the CBT initiative gains strength and independence and has the power to influence future tourism development.</p>
No or poor control over tourism activities in the area	
Selling land to outsiders	
Presence of external actors with interests that might not align with the interests of the community	
Decisions are dependent upon the proposals of external agents	
Exclusion of the community from management	<p>When the local community can influence tourism development, it does not automatically mean that there is a balance in terms of power, benefits, and decision making. There can be significant conflict and power imbalances between different community members/groups that need to be resolved by making the roles, responsibilities and rights of each actor (or group) in the CBT organization clear and understandable.</p> <p>The process of tourism governance in accordance with CBT principles also requires the involvement of various local groups in decision-making to ensure the overall long-term interest of the area in question and to maintain the legitimacy of the overall CBT initiative.</p>
Conflict within the community over land and/ or resources	
No unity of the community and/or understanding of the importance of collective actions over individual	
Inequality in benefit distribution	
Decisions are made by community elites	
Community governance structure disadvantages one or more groups	<p>Even when there is a strong motivation and focus on long-term sustainability and a balanced distribution of benefits and costs from tourism activities among local community members, there are still some barriers to successful tourism development and management that come from the surrounding (regional or national) level. Lack of financial resources often leads to the choice of organisations based on the voluntary work of their members (e.g., committees, civil society organisations, etc.), and the lack of professionalisation can further promote barriers and problems related to education and awareness.</p> <p>One of the most complex and challenging set of barriers to CBT development is the lack of interest and passivity of the community itself. This type of situation within the community makes it difficult or even impossible to create a bottom-up initiative and implement an organizational structure responsible for future tourism development. There are two options for the general state of apathy and lack of interest/enthusiasm among community members: Either try to increase interest and motivation through education and awareness campaigns about the importance and benefits of tourism, or even launch a pilot project using external human (and other) resources with the task of initiating activities and then preparing their transfer into the hands of the local community. Otherwise, the only option is to wait for gradual positive changes within the community, which is a long and unpredictable process and also the reason for the long-term decline of many potentially very successful sustainable destinations.</p>
Lack of financial resources	
No political commitment to support tourism	
No or limited marketing efforts	
Poor or inadequate government policies	
Apathy and lack of interest	
No involvement/passive involvement of community stakeholders in the tourism planning stage	
No or weak tourism leadership from within the community	

*Table 1: Groups of key barriers to development of CBT and their relationship with organization and governance models for community initiatives  
(Source: Authors elaboration)*

### 3. OVERVIEW OF MOST IMPORTANT CBT IMPLEMENTATION MANUALS WITH FOCUS ON GOVERNANCE MODELS AND ORGANISATION OF STAKEHOLDERS

Along with the literature and the results of scientific debates on CBT, a certain number of CBT implementation manuals exist as tools to operationalize CBT initiatives. For this paper, the main recommendations from three different manuals were analysed and placed in the perspective of efficient local organisation and the creation of sustainable models for the governance of community-based tourism initiatives.

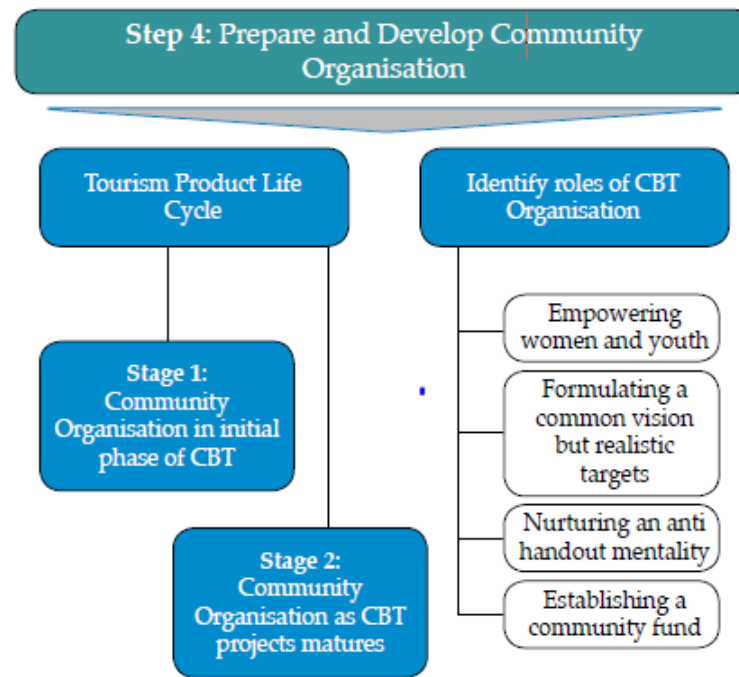
#### 3.1. Community-Based Tourism (CBT) Enterprise Handbook: How to start, operate and promote a CBT business in the Caribbean (Compete Caribbean, 2019)

This manual focuses on CBT as a tool to strengthen individual private initiatives of local communities. In this sense, it does not provide a specific governance model that would explicitly involve a broader network of local stakeholders, but it does emphasize the importance of choosing the organizational form of the enterprise as step 10 in defining the business concept: *“Business model and structure: First, define your business model. Will it be community-family owned, cooperatively-owned, family-owned, a partnership or entrepreneurship? Then, decide which business structure you will use to operate your business Sole Proprietorship, Partnership or Corporation?”* (Compete Caribbean, 2019, p 49). In addition, this manual discusses the importance of involving local community members in the initiative through a best practices checklist in the section: ensuring community participation and benefits. This section recommends using local products, services, and businesses, as well as hiring local employees for frontline positions, but also promoting and training them for leadership positions (Compete Caribbean, 2019, p. 40). However, these recommendations are not integral to the management model of the CBT initiative, nor do they imply the absolute necessity of implementing these practices in order to be a “true” CBT company. According to the manual, identified risks of community-based tourism include, in addition to some general potential negative impacts of tourism (increase in crime, change in local culture): *“Business failure due to lack of tourism knowledge and business skills.”* (Compete Caribbean, 2019, p 23). The approach taken in this handbook is unfortunately characteristic of many implementation documents related to CBT that fail to adequately address the organizational segment of the CBT initiative by proposing appropriate structures, processes, and governance models for implementation.

#### 3.2. Handbook for community-based tourism: How to develop and sustain CBT (Hamzah & Khalifah, 2009)

This manual provides a very detailed approach to the steps of building a CBT organization, and advice on building an appropriate organizational form is included in all steps, with an emphasis on Step 4.

*Figure following on the next page*



*Figure 1: The Step 4- Prepare and Develop Community Organisation  
(Source: Hamzah & Khalifah, 2009, p 40)*

As can be seen from Figure 1, establishing a community organisation requires careful planning for local community participation, and the organisational form of the initiative cannot be expected to remain the same as during the initial stages of the project, when the CBT project matures. Handbook authors emphasise that most CBT initiatives begin as a unique combination of tourism business opportunities and enthusiasm, individual commitment, and shared values among several individuals from the community who have a passion for change (Hamzah & Khalifah, 2009). Even if the initiative succeeds in overcoming the initial obstacles such as funding and positive market response, the CBT tourism business needs more skills, knowledge, and professional help to maintain quality and keep the interest of the tourism market. This requires a change in organisational structure, but the authors insist on maintaining the community structure in terms of active participation of community residents in the tourism product. Another argument for this recommendation is the funding models proposed in this manual. The establishment of a community fund with a specific mission to "manage revenues and expenses related to CBT projects and preferably serve as a revolving fund from which locals could also obtain microloans at low interest rates to start small businesses (Hamzah & Khalifah, 2009, p. 44). Here, it is possible to see a contextual bias in the recommendations, as this type of fund could be useful in less developed countries and regions, while more developed communities have other financing systems that are already well developed, and community funds could only be useful in extremely remote areas. One of the risks to the failure of CBT initiatives cited by the authors is the lack of understanding of the business and impact of tourism, which can lead to jealousy and unhealthy business rivalry among locals.

### 3.3. Community-based tourism handbook (Suansri, 2003)

This example of a handbook was chosen for analysis because it offers a "hands-on" approach in the form of practical advice and strategies for overcoming practical challenges. It includes a very informative chapter entitled "Administrative Organisation" that outlines the key conditions, characteristics, and principles for forming a formal organisational representative body of a CBT initiative.

The following elements are highlighted as critical for the CBT organisation to truly represent the interests of the community (Suansri, 2003):

- Participation
- Division of roles
- Division of benefits
- Transparency
- Measures to control and prevent natural and cultural impacts

Each of the elements is briefly described in the manual, with the greatest emphasis placed on participation and the resulting sharing of roles and benefits. The author recommends that CBT developers take an open approach to organizational membership in order to attract the broadest possible platform of community members, although she admits that this could lead to slower performance by the established organization. In terms of benefit sharing, it is generally recommended that the direct and indirect benefits of tourism activities be divided very clearly. While the organization should keep the part of the financial profit that is necessary for its functioning and further development, part of the profits from tourism activities should also be used to contribute to public projects that benefit the whole community (Suansri, 2003). Although this manual is very operational in some aspects (e.g., problem design, capacity building within the community), it lacks suggestions for some important business elements related to the organization and management of CBT initiatives, e.g., type of organizational structure, profit orientation, business model.

#### 4. CONCLUSION

In this paper, the main challenges in the implementation of CBT from an organizational perspective were examined and presented. From the literature, it appears that the quality of the organization of tourism stakeholders and the direct participation of the community in the decision-making and management process are one of the most important conditions for the success of CBT, but also one of the potential weaknesses that lead to the failure of many interesting ideas. Manuals and guides aimed at practitioners have not sufficiently recognized the need for a detailed approach to this aspect of CBT and usually provide only general recommendations on an appropriate organizational model, an accompanying legal form, and an effective governance model. Therefore, the challenges and barriers already identified in the implementation of CBT initiatives should be explored in more detail, focusing on the aspect of organization and governance and a detailed analysis of potential organizational and governance models suitable for different contexts. This approach could serve as a starting platform for future discussions and research aimed at finding solutions that operationalize existing knowledge and research findings while taking into account the specific local context of each initiative. This would be of great help to practitioners and decision makers in local communities.

#### LITERATURE:

1. Arnstein, S. R. (1969). A Ladder of Citizen Participation. *Journal of the American Institute of Planners*, 35(4), 216-224.
2. Asker, S.A., Boronyak, L.J., Carrard, N.R., Paddon, M. (2010). *Effective Community based Tourism: A Best Practice Manual*. Singapore: Asia Pacific Economic Cooperation Tourism Working Group (APEC TWG).
3. Compete Caribbean (2019). *Community-Based Tourism (CBT) Enterprise Handbook: How to start, operate and promote a CBT business in the Caribbean*.
4. Dangi, T. B., Jamal, T. (2016). An integrated approach to “sustainable community-based tourism”. *Sustainability*, 8, 475.



5. Dangi, T.B., Petrick, J.F. (2021). Augmenting the Role of Tourism Governance in Addressing Destination Justice, Ethics, and Equity for Sustainable Community-Based Tourism. *Tourism and Hospitality*, 2, pp. 15–42.
6. Dodds, R., Ali, A., Galaski, K. (2016). Mobilizing knowledge: Determining key elements for success and pitfalls in developing community-based tourism. *Current Issues in Tourism*: 1–22. DOI: /dx.doi.org/10.1080/13683500.2016.1150257. DOI: 10.1080/01944366908977225
7. Đurkin Badurina, J. (2019). Mon Perin Ltd.: Example Of Community-Owned Tourism, *Tourism and Hospitality Management*, 25(2), 421-429.
8. Đurkin, J., Perić, M. (2017). Organising for community-based tourism: Comparing attitudes of local residents and local tourism entrepreneurs in Ravna Gora, Croatia. *Local Economy* 32(7): 678–691.
9. Giampiccolo, A. (2020). A conceptual justification and a strategy to advance community-based tourism development. *European Journal of Tourism Research* 25, 2503.
10. Hamzah, A., Khalifah, Z. (2009). *Handbook for community-based tourism: How to develop and sustain CBT*. Singapore: Asia Pacific Economic Cooperation Tourism Working Group (APEC TWG).
11. Kala, D., Bagri, S.C. (2018). Barriers to local community participation in tourism development: Evidence from mountainous state Uttarakhand. *India Tourism*, 66(3), 318 – 333.
12. Kontogeorgopoulos, N., Churyen, A., Duangsaeng, V. (2014). Success Factors in Community-Based Tourism in Thailand: The Role of Luck, External Support, and Local Leadership. *Tourism Planning & Development*, 11(1), 106-124.
13. Mtapuri, O., Giampiccoli, A. (2016). Towards a comprehensive model of community-based tourism development. *South African Geographical Journal*, 98(1), 154-168.
14. Mustapha, N. A., Azman, I., Ibrahim, Y. (2013). Barriers to community participation in tourism development in Island destination. *Journal of Tourism, Hospitality & Culinary Arts*, 5(1), 102-124.
15. Ohe, Y. (2020). *Community-based Rural Tourism and Entrepreneurship A Microeconomic Approach*. Springer, Singapore.
16. Reimer, J. K. K., & Walter, P. (2013). How do you know it when you see it? Community-based ecotourism in the cardamom mountains of southwestern Cambodia. *Tourism Management*, 34, 122–132.
17. Sakata, H., Prideaux, B. (2013). An alternative approach to community-based ecotourism: a bottom-up locally initiated non-monetised project in Papua New Guinea. *Journal of Sustainable Tourism*, 21(6), 880-899.
18. Stone, L. S., Stone, T. M. (2011). Community-based tourism enterprises: challenges and prospects for community participation; Khama Rhino Sanctuary Trust, Botswana. *Journal of Sustainable Tourism*, 19(1), 97-114.
19. Suansri, P. (2003). *Community Based Tourism Handbook*. Bangkok: Responsible Ecological Social Tour-REST.
20. Tasci, D.A., Croes, R., Villanueva, J.B. (2014). Rise and fall of community-based tourism – Facilitators, inhibitors and outcomes. *Worldwide Hospitality and Tourism Themes* 6(3): 261–276.
21. The Mountain Institute. (2000). *Community-Based Tourism for Conservation and Development: A Resource Kit*, The Mountain Institute, Washington, USA.
22. Tolkach, D., King, B. (2015). Strengthening Community-Based Tourism in a new resource-based island nation: Why and how? *Tourism Management*, 48, 386-398.

23. Zielinski, S., Kim, S.-I., Botero, C., Yanes, A. (2018). Factors that facilitate and inhibit community-based tourism initiatives in developing countries. *Current Issues in Tourism*, DOI: 10.1080/13683500.2018.1543254.

## DATA PREPARATION AND EXPLORATION FOR DESCRIPTIVE MODELING IN EDUCATION

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### ABSTRACT

*Education domain generates huge amounts of data, especially in online teaching and learning. Data analysis enables detecting patterns of students' learning behavior which leads to personalized attention and adaptive feedback. Learning management system (LMS) data are in the focus of this paper. The LMS logs store information about students' login frequency, time of visits, number of downloading different resources, time and frequency of various activities. Within this research, log file analysis is performed from a Business decision making course at the University of Zagreb. Raw LMS data were extracted from Moodle, data was prepared, explained and explored in order to detect patterns in student's behavior in the online environment. Research results provide a basis for teachers' interventions on one hand, and serve as an input into predictive models' development, on the other hand.*

**Keywords:** *LMS data, trace data, educational data mining, descriptive modeling*

### 1. INTRODUCTION

The COVID-19 pandemic forced rapid change in all aspects of life especially in the field of education. Educators and students moved completely to online learning environments (Crawford, 2020). Different learning platforms were available to educators and students, such as Learning Management Systems (LMS) and Massive Open Online Course (MOOC). Many LMSs have been used, e.g. Blackboard, Edmodo and Moodle. Moodle (Dougiamas and Taylor, 2003) is one of the most popular LMSs. However, regardless of the platform, LMS stores students' interactions data. Such data is a valuable resource. In order to extract knowledge from raw data, data first should be prepared and explored. Raw data are extracted from LMS Moodle at the course Business decision making taught at University in Zagreb, Croatia. Course was taught at the undergraduate study program during summer semester of academic year 2020/2011. Due to COVID-19, the course was taught fully online. An aim of the paper is to prepare and explore raw data from the Moodle course to detect patterns in student's behavior at LMS. The rest of the paper is organized as follows. In Section 2, an overview of related recent research papers is provided. Section 3 gives learning management system data and methodology description Section 4 provides research results and interpretation. Finally, Section 5 concludes our work and gives directions for future research.

## 2. LITERATURE REVIEW

Various studies have shown that students' LMS data indicating their behaviors and involvement during course enrollment provides valuable information and gives predictive value for grades and completion rates of the course (e.g. Li, Baker and Warschauer, 2020., Sharma et.al., 2015. Oreški and Kadoić (2018) in their study investigated the relationship between students' success and the student's behavior, based on logs in Moodle. Authors researched the impact of a particular activity in an LMS on a final grade. Moodle course logs are from courses at the Faculty of Organization and Informatics. They found that there is a positive correlation between the opening of files in the e-course and the final grades. Similarly, Mwalumbwe and Mtebe (2017) wanted to determine if there was any causal relationship between students' activities in the Moodle and students' final grade. The data was undertaken from the LMS log of two courses delivered at Mbeya University of Science and Technology (MUST) between November to December 2015. The study has shown that LMS usage has an impact on students' performance. Discussion posts, peer interaction and exercises were found to have significant impact for students' academic achievement, but surprisingly, number of downloads, login frequency and time spent in the LMS were determined as unessential factors for students' performance. Some of the predictive models include analysis of LMS log files and strive to use information about student interaction with the LMS. Riestra-González, Paule-Ruíz and Ortin (2021) analyzed the interaction patterns of students and a strong correlation with students' performance. (Riestra-González, Paule-Ruíz and Ortin, 2021). Yu and Jo (2014) sought to determine which factors affect a student's achievement. They used data from students at a women's university in South Korea. Four variables were identified that significantly predict learning outcomes: total studying time in LMS, interaction with peers, regularity of learning interval in LMS, and number of downloads. Macfadyen and Dawson (2010) in their study affirms that some LMS variables are useful predictors of student achievement so meaningful information can be extracted from LMS and made available to educators via dashboard, to facilitate more easily monitor student engagement and learning progression. Differently from previous research, Iglesias-Pradas et al. (2015) focused on the applicability of learning analytics for prediction of deployment of two cross-curricular competencies, teamwork and commitment, based on Moodle interaction data logs at Universidad a Distancia de Madrid (UDIMA). Interestingly, results determined no relation between interactions in the LMS and the level of competency acquisition (Iglesias-Pradas et al., 2015). Prediction of students' performance is crucial for improvement of their learning. These few studies show that using LMS analytics brings valuable information. Furthermore, Costa et. al. (2012) suggests in depth investigation on how e-learning platforms can help in the explanation of the success of the students' learning process (Costa, Alvelos & Teixeira, 2012). Our research is in line with their guidelines. Hereinafter, we focus on data preparation and exploration of LMS data.

## 3. METHODOLOGY AND DATA DESCRIPTION

Wide range of data is automatically stored while students interact within the online learning environment. Details about interactions of students with the course content, assessing forums and assignments is available. Log files consist of variables indicating the number of actions students perform, how often an action is done, specific time slot when action is performed, number and time of assignments attempted, and so on. The log data are related to the course Business decision making conducted during the summer semester of academic year 2020/2011 in a fully online environment due to COVID-19 circumstances. The course is conducted under the undergraduate study program Economics of entrepreneurship, third year of bachelor program. There were 118 students in total. The course covers topics related to the descriptive decision-making theory (decisions definitions, decision-making styles, decision-making theories, creativity in decision making, critical thinking, types of decision making with respect

to different criteria, negotiation and conflicts) and prescriptive decision-making theory (introduction to multi-criteria decision-making methods, and introduction to decision making under uncertainty and risks). The course was implemented in a synchronous and asynchronous way using ICT technologies. In the first phase of data preparation, raw data is extracted from the Moodle course. Views of the course materials accumulated in Moodle course logs were downloaded in Excel file for data analysis. The main analysis used in Excel was related to creating Pivot tables. This step is crucial to prepare raw LMS data for knowledge discovery in data. All data was anonymized. Log data consists of information about each user login, forum post, view of specific file (e.g. power point presentation, pdf file), assignment submission, quiz attempt. Pivot tables function was used to analyze data from various perspectives and visualize the students' views with time series tables and graphs. Table 1 provides average number of logs per different activity and resource types in Moodle

Variable	Mean value
BigBlueButton	74.10
File	51.02
Forum	39.41
Students report	24.36
Choice	16.07
Group choice	12.09
File submission	8.28
Link	12.07
Workshop	17.08
Page	12.09
System	325.85
Test	107.69
Assignment	87.029

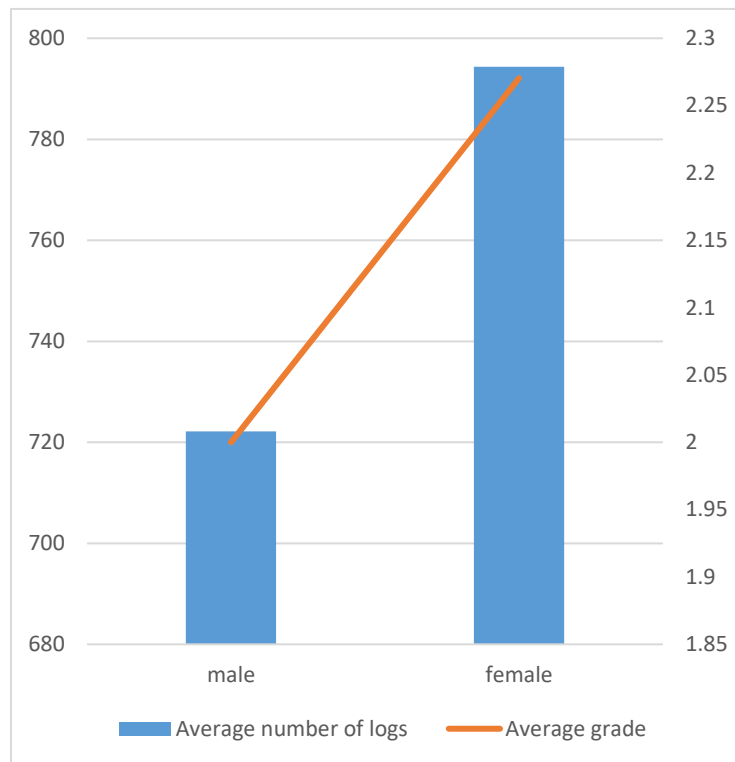
*Table 1: Students average views of specific content*

By using prepared data, visualizations are generated with an aim to gain insights into data characteristics and to see the interaction between students and environment. Different types of visualization are rendered to detect students' interaction patterns and behaviors and presented at section 4.

#### **4. RESEARCH FINDINGS**

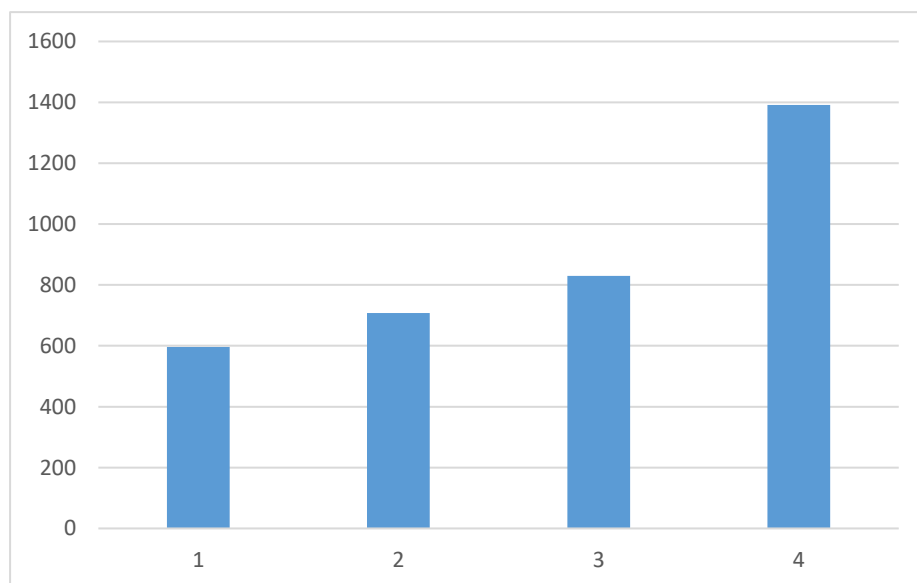
Data analysis revealed interesting results. First, we have examined students' activity by gender with respect to the average number of logs and average grade (Fig. 1).

*Figure following on the next page*



*Figure 1: Average number of logs and average grade*

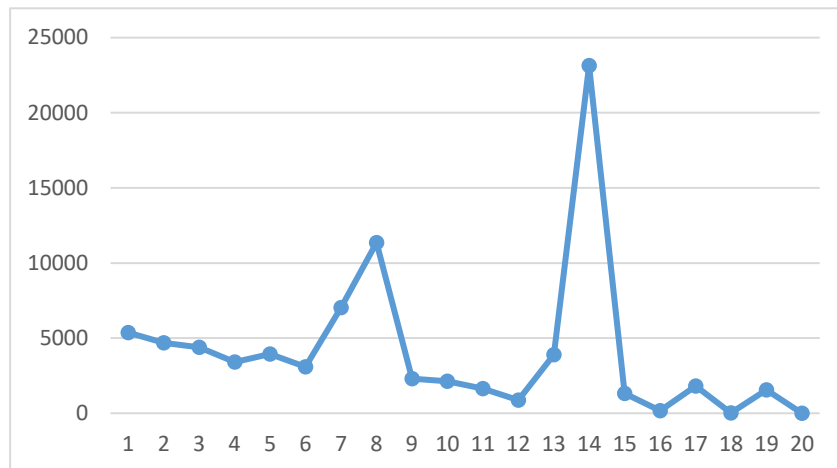
Results revealed that female students have a significantly higher number of logs than their male colleagues. Differences between genders is also visible in the average grade received. Female students have a higher average grade than male students. Those results are consistent with the previous research presented by Oreski and Kadoic (2018).



*Figure 2: Averaged number of logs with respect to grades*

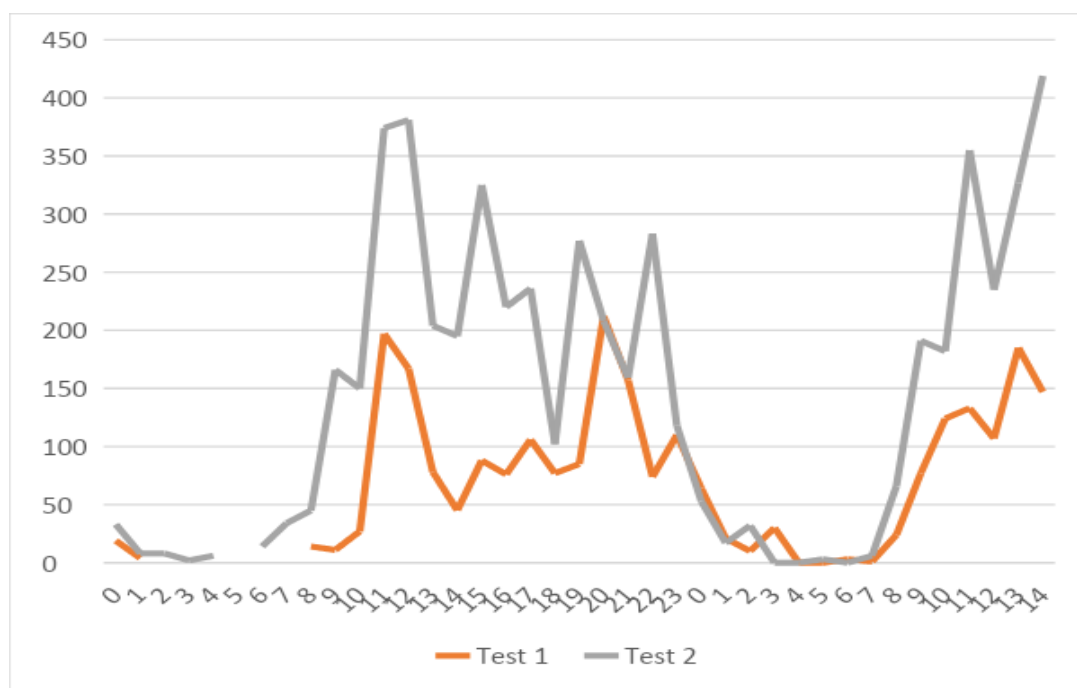
Fig. 2 shows the distribution of logs by the overall grade students achieved in the course. Distribution is almost linear: students with a higher number of logs achieved higher grades. The highest number of logs is achieved by the students with the highest grades, 3 and 4. There were no students with grade 5.

Fig. 3 presents the number of logs from the 1st to 20th week of the course.



*Figure 3: Number of student logs per week in the semester*

There are two peaks on the graph, in the 8th and 14th week of the course. The 8th and 14th week of classes are the weeks with two major tests on the course. The number of logs was increased in those weeks due to intensive preparation for the tests in the last days before the test and due to activities of conducting the online tests, when a major number of logs occurs. Furthermore, it was interesting to analyze what happened in the last hours before the tests, and this analysis is presented at figure 4.



*Figure 4: Number of logs on the hours before two main tests*

Fig. 4 indicates course logs related to the hours before test days. The tests were implemented on Tuesdays at 15.00. There are similar patterns in page views for both tests. Various peaks can be detected in the morning. Also, in both cases, there is a significant number of logs in the late hours of the day.

During these times, most students downloaded test materials and started to study. However, course activity during the late hours is more conspicuous for the first test than it is for the second. Time-focused analysis results for the whole course period level are presented in Fig. 5.

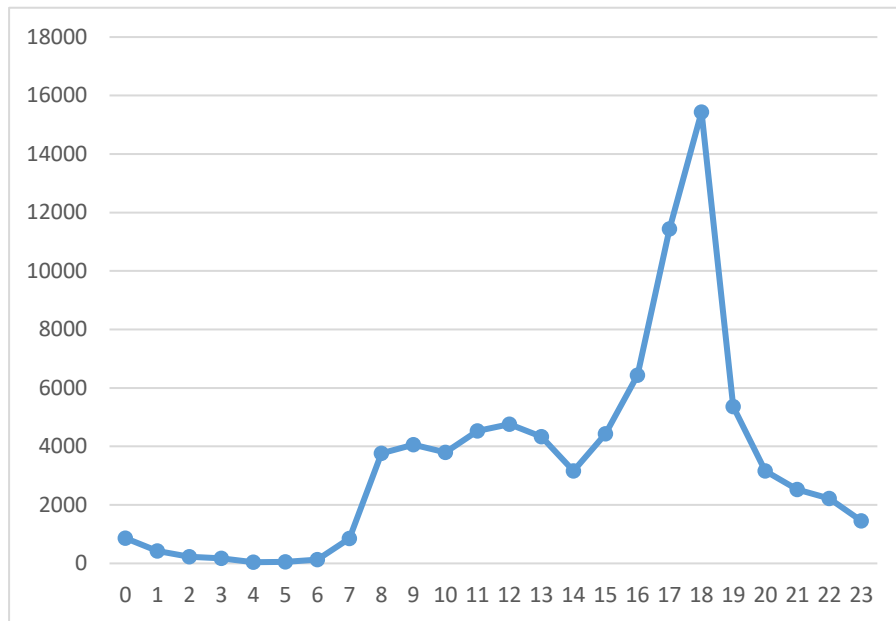


Figure 5: Number of student logs per hours in an day (0 = 0.00 – 0:59; 1 = 1.00 – 1.59...)

Figure shows the hours of the day during which students were logged into the course. There is very low activity before 8 a.m. During the afternoon, a number of logs increases, but this decreases in the evening. After 18 (6 p.m.). In the period after midnight, there is very low activity on the course.

Figure 6. provides average number of logs per day in week and grades achieved.

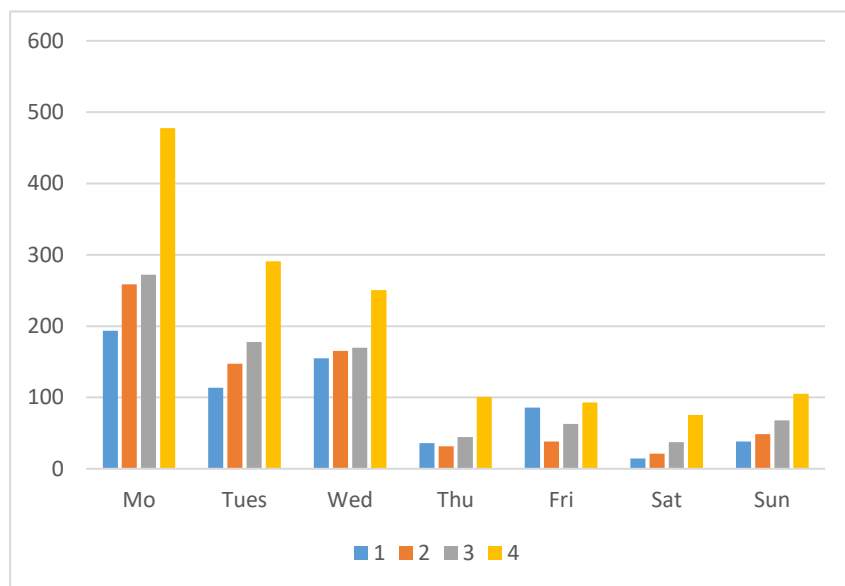


Figure 6: Averaged number of logs by grades achieved

The highest average activity was on Monday. That is the day in the week when lectures were held. The lower activity was on two days of weekend, Saturday and Sunday.



When taking achieved grades into account, it is notable that students with higher grades logged in more often on LMS. There is high activity of students with grade 4.

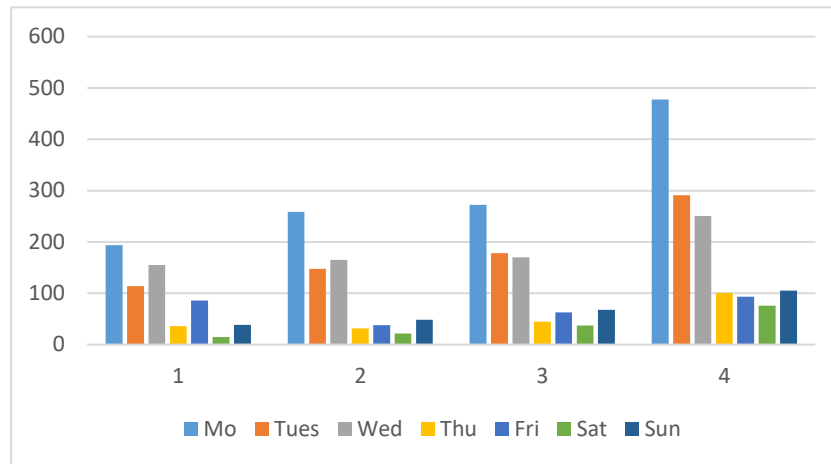


Figure 7: Averaged number of logs per day in week

Similarly, figure 7 presents an analysis of students' activities with respect to the grade they achieved and the day in the week. All students had the highest activity on Mondays.

## 5. CONCLUSION

Online learning environments are increasingly used by both students and teachers, and their usage has increased during the COVID-19 pandemic. In this paper, a learning analytics approach is used for analysis of students' activity at the LMS to analyze student's performance. Within this study, we had performed data understanding, data preparation and data exploration of LMS Moodle data. Our final objective is to develop predictive models to create a basis for course improvement and personalized learning approach. We rely on LMS data since their major benefit is data availability. In terms of future work, our aim is to develop predictive models based on the LMS data by using different supervised machine learning approaches. Development of predictive models will upgrade presented work and give insights into determinants of student course success. Furthermore, research will be expanded with IT students to compare their behavior patterns with economics students.

**ACKNOWLEDGEMENT:** *This work has been fully supported by Croatian Science Foundation under the project UIP-2020-02-6312.*

## LITERATURE:

1. Crawford, J., Butler-Henderson, K., Rudolph, J., Malkawi, B., Glowatz, M., Burton, R., et al. (2020). COVID-19: 20 countries' higher education intra-period digital pedagogy responses. *Journal of Applied Learning & Teaching*, 3(1), 1–20.
2. Costa, C., Alvelos, H., & Teixeira, L. (2012). The use of Moodle e-learning platform: a study in a Portuguese University. *Procedia Technology*, 5, 334–343.
3. Dougiamas, M., & Taylor, P. (2003). Moodle: Using learning communities to create an open source course management system. In *World conference on educational multimedia, hypermedia and telecommunications (EDMEDIA) 2003*. Chesapeake, VA, USA.
4. Iglesias-Pradas, S., Ruiz-De-Azcárate, C., & Agudo-Peregrina, Á. F. (2015). Assessing the suitability of student interactions from Moodle data logs as predictors of cross-curricular competencies. *Computers in Human Behavior*, 47, 81–89. <https://doi.org/10.1016/j.chb.2014.09.065>

5. Macfadyen, L. P., & Dawson, S. (2010). Mining LMS data to develop an “early warning system” for educators: A proof of concept. *Computers and Education*, 54(2), 588–599. <https://doi.org/10.1016/j.compedu.2009.09.008>
6. Mwalumbwe, I., & Mtebe, J. S. (2017). Using learning analytics to predict student’s performance in moodle learning management system: A case of Mbeya University of Science and Technology. *Electronic Journal of Information Systems in Developing Countries*, 79(1), 1–13.
7. Riestra-González, M., Paule-Ruíz, M. del P. and Ortin, F. (2021) ‘Massive LMS log data analysis for the early prediction of course-agnostic student performance’, *Computers and Education*, 163(November 2020). doi: 10.1016/j.compedu.2020.104108.
8. Li, Q., Baker, R., & Warschauer, M. (2020). Using clickstream data to measure, understand, and support self-regulated learning in online courses. *The Internet and Higher Education*, 45.
9. Sharma, K., Jermann, P., & Dillenbourg, P. (2015). Identifying styles and paths toward success in MOOCs. In O. C. Santos, J. G. Boticario, C. Romero, M. Pechenizkiy, A. Merceron, P. Mitros, et al. (Eds.), 8th int. Conf. On educational data mining (pp. 408–411). Madrid, Spain
10. Oreški, D., & Kadoić, N. (2018, November). Analysis of ICT students' LMS engagement and success. In 35th International Scientific Conference on Economic and Social Development (pp. 434-442). Varazdin Development and Entrepreneurship Agency, Varazdin, Croatia and partner institutions.
11. Kadoić, N., & Oreški, D. (2018, May). Analysis of student behavior and success based on logs in Moodle. In 2018 41st International Convention on Information and Communication Technology, Electronics and Microelectronics (MIPRO) (pp. 0654-0659). IEEE.
12. Yu, T., & Jo, I. H. (2014). Educational technology approach toward learning analytics: Relationship between student online behavior and learning performance in higher education. *ACM International Conference Proceeding Series*, March, 269–270. <https://doi.org/10.1145/2567574.2567594>

# LEGAL CHALLENGES IN CROSS-BORDER TRADE IN GLOBALISATION

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## **ABSTRACT**

*The human desire to avoid the costs and to be selfish is eternal. The mighty companies and mighty individuals tend to create the business environment in which they would pay the least amount of taxes, and they use several old and couple of new ways, like tax havens, tax avoidance, money laundry, and the cross-border trade which takes advantage of registering in the country in which there is virtually no business, since they have low taxation rate, whereas the business is conducted and money earned in places that receive zero or close to zero sum of taxes, which deprives them from growth. The majority of BEPS activities are associated with Intellectual Property ("IP"), i.e. Technology (eg. Apple, Google, Microsoft, Oracle are amongst the most notorious) and Life Sciences (eg. Allergan, Medtronic, Pfizer and Merck & Co). The economy is changing to become more digital and knowledge-based, so it is the main challenge for the legal systems and jurisdictions around the world, and the national jurisdictions must cooperate and create the supranational laws to hunt the profit shifting and boost the exchange of information.*

**Keywords:** *Tax evasion, tax haven, cross-border trade, business, jurisdictions, globalisation*

## **1. INTRODUCTION**

The international trade and economy have become highly globalised during the last couple of decades. The means of transport, and especially, the means of (tele)communications, like telegraph, underwater telegraph cables, radio, television, satellite links and finally, and crucially, the Internet, have changed the face of the international trade and economy to the unprecedented levels unknown before. It is hard to grasp how tectonic and seismic were these changes. On the other hand, the human desire to evade taxes or to pay simply less is as old as the humanity itself. It existed before the globalisation and information age, but it has become infinitely more sophisticated during this day and age. Now it is possible for a company like Google to earn money pretty much everywhere in the EU, and to pay only in the place where it was formally registered, like Ireland. Or at least, it was possible. The lawmakers clearly saw this loophole in the law as a chance for the companies to simply avoid taxation they do not like. The old story is the story of tax havens. The companies tend to register their formal centres in countries and jurisdictions where the taxes are extremely low, and these are usually microstates ranging from the Caribbean Cayman Islands to Liechtenstein in Europe, all the way to Nauru in Oceania. But, the different leakings like Panama Papers, Paradise Papers and Pandora Papers have shown the world the ugly face of the tax evasion and cross-border trade, and have shown the world a path of cooperation and legality as a mighty weapon for the fight with such business habits, which lead to the deprivation of wealth of masses, and the agglomeration of wealth in few.

## **2. TAX HAVENS**

A tax haven, tax shelter or tax hideout is a territory or State that is characterised by applying a tax regime especially favourable to citizens and companies not residents (Molina, 2018) who are domiciled for legal purposes in the same. It refers to the country, state or jurisdiction, which for certain types of companies or Financial Institutions, establishes reduced tax regimes or low tax burden, does not have monetary, banking or financial supervision or regulation (or these -

sic - are almost non-existent) and Intense restrictions or limitations apply to information exchanges with other jurisdictions. Typically, these advantages consist of a total exemption or a very significant reduction in the payment of the main taxes, as well as bank secrecy (Font, 2016). Tax havens are one of the most used instruments by people and companies that practice tax avoidance and evasion. This refers to avoiding the responsibility of paying fiscal taxes that the laws of a State impose to maintain the balance between harmony and existing obligations in it; such as public spending, payment of debts and investments (both social and infrastructure). It is a subject considered controversial because in most cases it is considered an act of public immorality to want to hide the true amounts of money that it is possessed and this fact is immediately associated as an illicit activity. Although there is a double taxation agreement, tax havens usually fail to exchange tax information. Companies and bank accounts opened in territories benefiting from tax haven status are often called offshore. Currently, in practice, it is easy to apply capital that is of unknown origin, protecting the identity of the owners of this money, by guaranteeing absolute banking secrecy. These are territories marked by great ease in granting licenses for opening businesses, in addition to low or non-existent taxes. They are generally averse to the application of norms of international law that try to control the phenomenon of money laundering. For instance, according to the LuxLeaks, once again, a group of journalists and international media bring out the colours of Luxembourg and the European Union to the sun and revealed the harsh truth of the richest European country. Namely, an investigation carried out by several international media outlets, including France's *Le Monde*, Germany's *Süddeutsche Zeitung*, Belgium's *Le Soir*, US *McClatchy*, Luxembourg's *Woxx*, Italy's *IrpiMedia* and the Consortium of Investigative Journalists (OCCRP), which they have called jointly *OpenLux*, has laid bare what is behind the financial success of the country: 55,000 shell companies without offices or employees that manage assets for more than six billion euros, five times the Spanish GDP. The investigation shows that there are 1,810 companies in a postal address without employees, another 1,660 just a few blocks away, 1,330 in another nearby office, 980 in a fourth, which amounts up to 124,000 companies. The investigation has dug into the commercial registry of the duchy, to extract the names of the people and companies behind said companies registered there, in addition to 3.3 million administrative and financial documents to complete the database. The investigation, which released various names of billionaires and companies over the next few days, reveals that a large part of the world's wealth is concentrated in the Duchy. At least 279 of the 2,000 richest people on the planet have their tax home there. *Le Monde* points out that 37 of the 50 richest families in the world also use the country to structure their business groups, assets and investments and save on their tax bill. At the moment, they have dropped some of the names mentioned. Tiger Woods, Cristiano Ronaldo, Shakira and the King of Bahrain, as well as some multinationals such as LVMH, Pfizer or Amazon. In 2014, another journalistic investigation brought to light the Tax Ruling scandal that the later president of the European Commission, Jean-Claude Juncker, had signed with several multinational companies. This practice consists of signing specific bilateral contracts between companies and the Luxembourg government in which they are exempt from paying taxes for a period of one year or not paying taxes on income brought from other territories. But the elimination of these bilateral agreements between companies and the State have not set aside or eliminated the aggressive taxation practices and opacity that the territory offers to all companies and great wealth. None of these scandals seems to solve the problem of having a tax haven in the heart of the European Union. Luxembourg is, after the United States, the second international financial center in the world with an internal Foreign Direct Investment flow of 5,766% of its GDP and an external one of 6,749%. So when all these companies pay those small tax fees in Luxembourg, it amounts to the significant wealth of the tiny country. The rest of the tax havens function the same way.

According to calculations by the Organisation for Economic Co-operation and Development (OECD), 11.3 trillion US dollars are currently deposited in tax havens. The Tax Justice Network puts it at up to \$32 trillion (between 24-32% of total global investments, which is an amazing figure). The Figure 1 shows the tax havens in the map of the world. Notice Latvia as an example of tax heaven, and it is in no way a microstate. Jersey in the United Kingdom is one of the oldest tax havens which even apply zero taxation.



*Figure 1: Name Tax Havens around the world  
(Source: Wikimedia)*

The Figure 1 shows that the Carribean islands are full of tax havens and dotted with them. Pressure from various international organisations, especially the OECD and the FATF, has meant that, in recent years, many tax havens have agreed to make certain concessions in terms of information exchange, especially with regard to collaboration in clarifying serious crimes. The banking sector also now applies strict customer identification policies, known as due diligence. However, in many cases the opacity of these territories is still important, so are their tax advantages. This is used by very different sectors of the economy, from private savers, through investors, import and export companies, to large multinationals, banks and insurance companies. The OECD as part of the actions directed in its fight against tax havens; in 2000, it founded the Global Forum on Transparency and Exchange of Tax Information. The objective of this body is to lead global actions in the area of transparency and exchange of tax information, guaranteeing the rapid and effective application of standards on transparency and exchange of information. The Global Forum on Transparency and Exchange of Tax Information in its 2016 progress report on Tax Transparency, highlighted among its most important achievements the application of the AEOI (Automatic exchange of information) and EOIR (Exchange of Information on Request) standards around the world, as well as the support that the Global Forum provides to its members, particularly developing countries, to help them implement those standards. The implementation strategy for this set of achievements is based on monitoring, evaluating and supporting. On the other hand, many countries (particularly OECD members) have enacted laws that seek to make it more difficult for their citizens to avoid paying taxes through companies in tax havens. In these cases, these companies are considered as a controlled foreign corporation or CEC, applying a tax transparency regime to its owner, that is, considering the income of said company as generated directly by its owner. As for their international relations, few countries have bilateral agreements on international double taxation or, if they exist, non-resident companies are expressly excluded from them.

For the United Nations (UN), tax havens violate human rights, according to a study and analysis by its experts (Ferré, 2016). Other uses of the word tax haven are more obscure. Chinese companies can frequently establish overseas companies to raise foreign capital, and it often goes against the law in Mainland China (Awai, 2016). In some of the world's hereditary dictatorships, the law may be on the side of the elite who use offshore companies to award oil contracts to themselves, like in Africa, as investigated by the French journalists (Tilouine, 2016) or overseas corporations to issue gold concessions to their sons, as investigated by Guardian (Garside, Harding, Watt 2016). British magazine The Economist and the International Monetary Fund, stating that there is no official or universal definition of a tax haven describe it this way "offshore financial center, or tax haven, as a jurisdiction whose banking infrastructure primarily provides services to people or businesses who do not live there, requires little or no disclosure of information when doing business, and offers low taxes" (Zoromé, 2007). Oxfam blamed tax havens in its 2016 annual report on income inequality for much of the widening gap between rich and poor, stating the following: "Tax havens are at the core of a global system that allows large corporations and wealthy individuals to avoid paying their fair share, depriving governments, rich and poor, of the resources they need to provide vital public services and tackle rising inequality." – which was stated by Raymond C. Offenheiser, president of Oxfam America (Cohen, 2016). [https://en.wikipedia.org/wiki/Panama\\_Papers-cite\\_note-43](https://en.wikipedia.org/wiki/Panama_Papers-cite_note-43) In October 2009, research commissioned by Deloitte to the Base Review of British Offshore Financial Centres (London is a tax haven for much of Europe, Asia and South America, it should be noted) said that much less tax had been lost to tax havens than previously thought. The report stated "We estimate that the UK corporation tax to be potentially lost from tax evasion is £2 billion a year, although it could be much less." An earlier report by the UK Congress on Commerce concluded that tax evasion by the top 50 companies in the FTSE 100 was depriving the UK Treasury of approximately £11.8 billion. The report also highlighted that dependence on the British krona makes a "significant contribution to the liquidity of the UK market". In the second quarter of 2009, they provided liquid funds to banks in the UK totaling \$323 billion (£195 billion), of which \$218 billion came from Jersey, \$74 billion from Guernsey and \$40 billion from the Isle of Man, as stated by The Times at the time.

### **3. THE MONEY LAUNDRING SCHEMES AROUND THE WORLD**

Money laundering is an expression that refers to economic-financial practices that aim to disguise or hide the illicit origin of certain financial assets or property, so that such assets appear to have a licit origin. or that, at the very least, the illicit origin is difficult to demonstrate or prove. In other words, laundering money is simulating a financial operation to justify amounts obtained through illicit or undeclared means. An example would be the issuance of false invoices (by lawyers, consultants, doctors...) for services not actually provided (hence, false invoices) to justify the receipt of amounts that were actually received as a bribe, sale of drugs or simply not declared to the tax authorities at the right time. It is a way of justifying the existence of values or goods obtained in an unreliable way through false reputable operations. One of the most prominent cases are Brazilian "Lava-Jato", The Russian Laundromat and the Azerbaijani Laundromat.

#### **3.1. The Russian laundromat**

The Russian Laundromat first became known in 2014, thanks to investigations and articles by Novaya Gazeta and OCCRP. Then the journalists made public the amount laundered over four years (\$20 billion), described the scheme by which the alleged fraudsters worked (fictitious loan agreements between foreign shell companies, Russian and Moldovan guarantors "forced" to repay a non-existent loan), and named the main participants fraud - Moldovan Moldindconbank and Latvian Trasta Komerbanka.

According to the study, the scheme worked like this: two foreign shell companies, secretly controlled by Russian money launderers, enter into a fictitious loan agreement (in reality, no money is transferred to the borrower). The guarantors for the debt are a Russian company and necessarily a citizen of Moldova. One of the parties to the contract cannot pay off the debt, and the "creditor" makes demands on the guarantor. Since a Moldovan citizen is involved in the deal, the case goes to a Moldovan court, where a corrupt judge issues an official order obliging the Russian company to pay off the debt. The court appoints a bailiff, who is also part of a fraudulent scheme, and he opens an account with Moldindconbank, where the Russian company transfers money, paying off a non-existent debt. According to the participants in the investigation, 18 Russian banks participated in the scheme for the withdrawal of criminal funds abroad, 15 of which had their licenses revoked in the period from 2013 to 2016 (Tkachev et al, 2017). It was also attended by 20 judges and 15 courts from Moldova, whose role was the legalisation of money laundering. "Laundromat" operated for four years and allowed fraudsters using the same scheme to launder money on a huge scale, which even exceeded the GDP of many countries of the world (Three times the annual volume of the Moldovan economy was spent through this scheme). This scheme involved: dozens of Russian banks, as well as banks from Moldova and Latvia; Moldovan judges and bailiffs; impoverished nominal directors from Ukrainian villages; and the same nominal managers from the islands of the Caribbean. These operations were carried out on the territory of several countries, but Russia can be considered the only victim, since the money withdrawn to the shadow financial sector was of Russian origin, and taxes were not paid from them, and, as it is believed, most of them are unlikely to ever will come back (Anin, 2014). In just a few years, about 22 billion dollars were withdrawn from Russia through the Laundromat. Journalists from 32 countries took part in the study of this scheme. Journalists wrote that among the beneficiaries of the money laundered are the Moldovan politician and businessman Vyacheslav Platon, the Russian FSB, as well as the Moldovan politician and businessman Ilan Shor. Including in this case, on charges of withdrawing more than 20 billion dollars from Russia, on April 20, 2017, the Moldovan court sentenced Vyacheslav Platon to 18 years in prison. Platon himself stated that his conviction was the revenge of Plahotniuc, with whom he came into conflict. According to one of the versions that appeared in the press, they did not share the Victoriabank controlled by the latter, according to another, Platon tried to bribe deputies from Plahotniuc's Democratic Party, while Platon himself said that the conflict began in 2009, when he tried to prevent Plahotniuc from appointing his man to the post of Prosecutor General countries. Plahotniuc later escaped Moldova.

### **3.2. The Azerbaijani laundromat**

The other prominent "Azerbaijani Laundromat" is a complex money laundering operation exposed in September 2017 as part of the Organised Crime and Corruption Reporting Project (OCCRP). The investigation showed that in two years, from 2012 to 2014, about 2.9 billion US dollars were transferred through European companies and banks. The money was used to bribe European politicians in order to restore Azerbaijan's reputation abroad. The operation was revealed as a result of a joint investigation by OCCRP. Internal bank documents detailing more than 16,000 transactions between 2012 and 2014 were leaked by the Danish newspaper Berlingske, which shared them with its media partners. The documents revealed a large number of hidden transactions indirectly linked to "influencers" in Azerbaijan, using mainly 4 British shell companies and a branch of Danske Bank in Estonia to transfer large amounts to accounts of companies and individuals around the world (Ismayilova, 2017). The operation allowed Azerbaijan's ruling elite to channel at least \$2.9 billion to silence criticism of Azerbaijan's human rights violations, advance the interests of the regime, and create a positive image of Azerbaijan abroad.

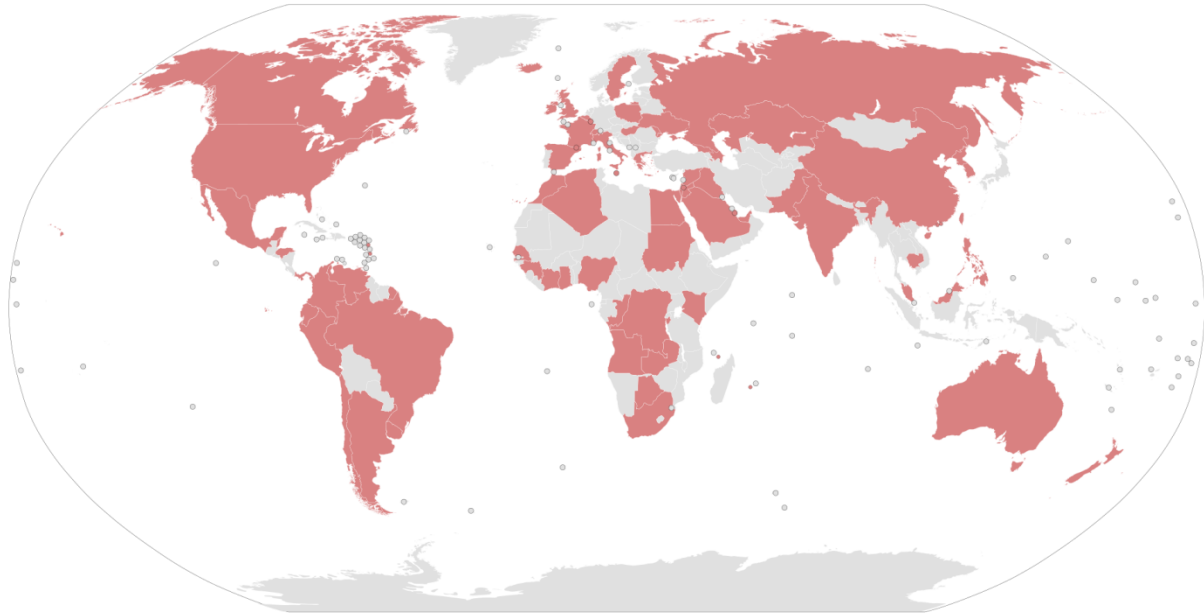
This was Berlingske's first major international joint investigation and received wide coverage, due to Danske Bank's involvement in money laundering, Danish Prime Minister Lars Løkke Rasmussen publicly responded to the revelations by telling Danish TV2: "This makes me upset and angry" (Roque, 2017). Money laundering Nearly half of the money (\$1,452,918,429) came from a shell company account at the International Bank of Azerbaijan linked to the Aliyev family; \$8.5 million came directly from government ministries and organizations, in particular, the Ministry of Defense Industry of Azerbaijan, the Ministry of Emergency Situations and the State Security Service. Part of the money came from companies associated with the regime, such as: Baktelekom MMC, associated with former minister Goknur Baki, Azarbaycan Methanol Kompani, Arash Medical Production. The other part of the money came from Rosoboronexport, Russia's state arms export company. The recipients also included prominent Azerbaijanis with government positions or connections, such as the family of Yakub Eyyubov, Azerbaijan's first deputy prime minister, Ali Nagiyev, a government official responsible for fighting corruption, and Orkhan Sultanov, Azerbaijan's head of foreign intelligence. The four businesses at the center of the money laundering operation, Metastar Invest, Hilux Services, Polux Management and LCM Alliance, were UK registered limited companies. Their partners were anonymous tax havens in the Virgin Islands, Seychelles and Belize. Danske Bank maintained the accounts of all four businesses, allowing billions to pass through the Estonian branch without due diligence. Most of the payments were made to companies in the UK, large sums also went to companies in the UAE and Turkey in accounts that were also involved in the "Russian Laundromat", thus revealing a connection between the two money laundering systems. Both "laundromat" (the English word "laundromat" is translated into Russian as "laundromat" - a term coined by OCCRP to refer to an extensive money laundering operation) used the same type of British LLP, the same agents and the same bank accounts, in addition, 33 of the companies involved in the Azeri version are also featured in the Russian version, indicating that the entire operation could be much broader and require further investigation to reveal it fully. Socio-political influence During the money laundering period, the Azerbaijani government imprisoned more than 90 human rights activists, opposition politicians and journalists (such as Khadija Ismayilova, Mehman Huseynov, Intigam Aliyev, Anar Mammadli, Rasul Jafarov, Leyla Yunus) on politically motivated charges. Although these repressions and human rights violations were strongly condemned by international human rights organizations, a number of European politicians who received remittances were able to mobilise important international organizations such as the Parliamentary Assembly of the Council of Europe (PACE), and UNESCO, to silence the critics.

#### 4. PANAMA PAPERS

Panama Papers (in Spanish "Papeles de Panamá") is the expression given by the media to an informative leak of confidential documents from the defunct Panamanian law firm Mossack Fonseca, services consisting of founding and establishing companies registered in a tax haven in such a way as to "conceal the identity of the owners" (Obermayer et al, 2016). The first results of the journalistic investigation were presented simultaneously on April 3, 2016 by 109 media outlets (newspapers, television channels and digital platforms) in 76 countries. On May 9, 2016, the ICIJ published the complete database, which works under the Open Database License (ODbL, v1.0) and its contents were released under the Creative Commons Attribution-ShareAlike 3.0 Unported license (CC BY-SA3.0).

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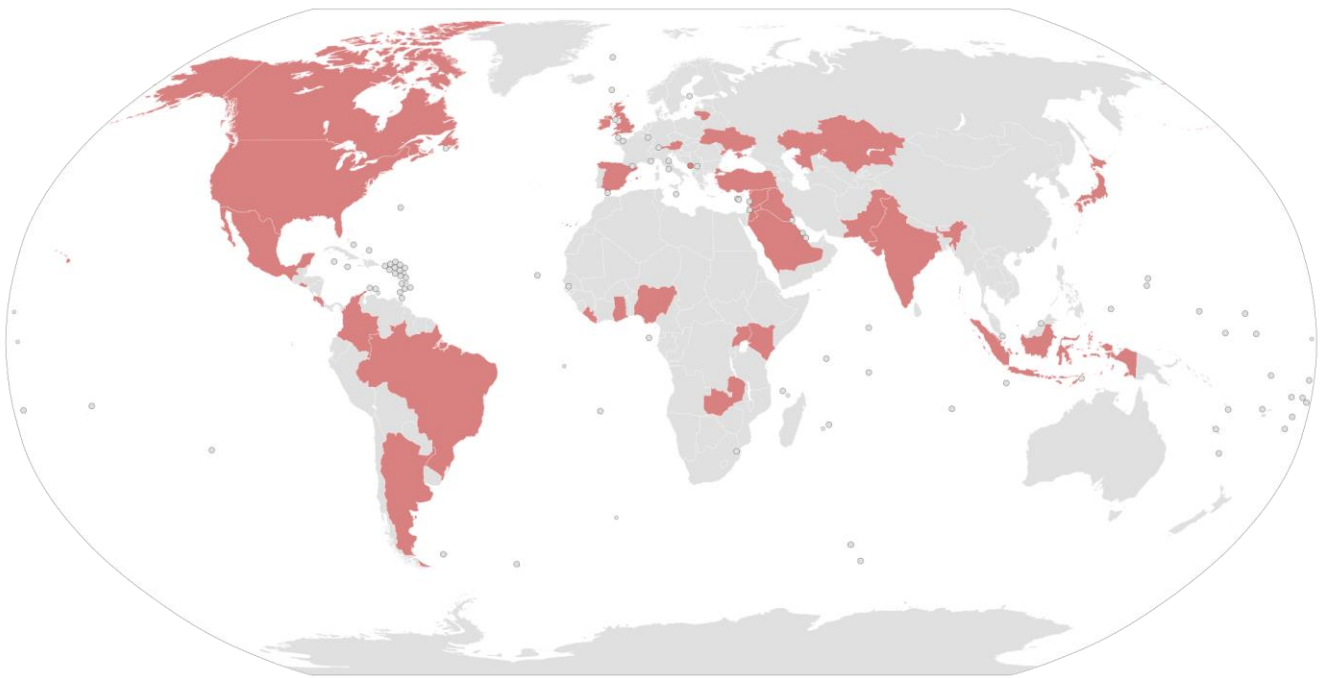
*Figure 1: The countries mentioned in the Panama Papers  
(Source: Wikimedia)*

The tax evasion is any action, in principle through legal channels, which seeks to avoid minimising the payment of taxes. It constitutes a form of aggressive tax planning, in which the interested party takes advantage of legal gaps to obtain benefits not provided for by the tax regulations. The tax havens are a typical instrument of tax evasion; these are jurisdictions that make it easier for those (persons or companies) to register for reduced taxation and opacity in operations. The Panama Papers basically deal with this issue. On the other hand, among the many world leaders, political leaders and famous personalities, there are at least 33 individuals or business entities that had been sanctioned by the Department of the Treasury of the United States, in part due to the international sanction that weighs on several States. The five most evident cases are DCB Finance, North Korea, Pangates International, Syria, Drex Technologies, Syria, Petropars Ltd., Iran and John Bredenkamp, Zimbabwe. However, this is a global issue, as the information affects 140 senior political leaders and public figures from 50 different countries who participate or have participated in offshore companies in 21 different tax havens. Among those transactions, there are a number of public transactions that include 12 heads of state and former heads of state, such as the former president of Argentina Mauricio Macri, the prime minister of Iceland Sigmundur Davíð Gunnlaugsson, the presidents of Ukraine Volodymyr Zelensky and Petro Poroshenko, as well as family of Pakistani Prime Minister Nawaz Sharif, among others. Mauricio Macri, as indicated in the report of this periodical investigation, between 1998 and 2009, together with other members of his direct family, was part of the directory of the offshore company Fleg Trading Ltd, a company whose headquarters are registered in the Bahamas. This firm's 2007 sworn declaration does not include this firm, which, as stated in an official statement, should not include it without ever having had the actions of said company, being only a nominal director. Due to the particular condition of Ukraine, a nation sunk in a war, the involvement of its president in office since 2014, Petro Poroshenko, acquires an additional and special ethical dimension. Poroshenko has a heritage of 858 million dollars, a fortune that he amassed only with chocolate factories, shipyards, a bank, automobile, armament and communication media factories, becoming sixth in the list of the richest in his country (according to Forbes list). During his electoral campaign, he did not want to be identified with an oligarch and even declared that he would sell his group of companies to dedicate himself exclusively as president «to the good of the Ukrainian nation».

But the Panama Papers show that in the worst moment of the war, Poroshenko forwarded the foundation of his ghost company Prime Asset Partners Limited, just a few months after his electoral triumph, so that he registered all the formalities of the firm. It was completed on the 1st of September 2014, the same day when hundreds of Ukrainians died in the battle of Ilovaisk. The phantom company was conceived as a holding of Cypriot and Ukrainian companies of the Roshen group.

## 5. PARADISE PAPERS

"Paradise Papers", "Documents from the Paradise Islands" are a next array of materials relating to the activities of offshore companies registered in "exotic" offshore zones, which were made public in early November 2017 as a result of an investigation organized by the newspaper Süddeutsche Zeitung.



*Figure 2: The countries mentioned in the Pandora Papers  
(Source: Wikimedia)*

The newspaper, which received a data set from an anonymous source, handed it over to the International Consortium of Investigative Journalists (ICIJ) and the OCCRP Organized Crime and Corruption Investigation Center. About 400 journalists from 67 countries were involved in the project to investigate the materials from the Paradise Islands. In total, the array contains 13.4 million documents about the owners of offshore companies. Most of the documents - 6.8 million - are related to the Bermudian firm Appleby Group Services Ltd, which provides services for offshore registration, tax planning and corporate governance. The second company-registrar, whose archives were handed over to journalists, is Singapore's Asiacity Trust. In addition, the array contains corporate register data from 19 states: Antigua and Barbuda, Aruba, Bahamas, Barbados, Bermuda, Cayman Islands, Cook Islands, Dominica, Grenada, Labuan, Lebanon, Malta, Marshall Islands, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Samoa, Trinidad and Tobago and Vanuatu. The disclosed documents contain information about the assets and property of a number of politicians and other public figures, as well as provide insight into the offshore operations of Facebook, Apple, Microsoft, eBay, Glencore, Uber, Nike, Walmart, Allianz, Siemens, McDonald's and Yahoo.

In particular, the documents are related to the financial transactions of Queen Elizabeth of Great Britain, President of Colombia Juan Manuel Santos, US Secretary of Commerce Wilber Ross, President of Ukraine Petro Poroshenko.

## 6. PANDORA PAPERS

The Pandora Papers are the newest of sets of disclosure documents containing dirty secrets about the cross-border shady business. It is a set of 11.9 million leaked documents, which the International Consortium of Investigative Journalists (ICIJ, for its acronym in English) has coordinated with journalists of research from different countries to analyze and publish stories that are of public interest. His departure was announced on October 2, 2021 and the publication of linked notes began on October 3. The organization described the document leak as its largest leak of financial secrets to date. In the Pandora Papers, ICIJ worked with 11.9 million documents (2.94 terabytes), making this the largest leak of offshore company data, surpassing the Panama Papers, which was a leak of 11.5 million confidential documents (2.6 terabytes). The information is related to various offshore accounts of personalities, politicians and people with a lot of money. Some of the individuals named face charges of corruption, money laundering, or tax evasion. As described in the first media that exposed the investigation of "financial secrets of 35 world leaders, of more than 330 public officials from some 90 countries, of businessmen who appear in the Forbes rankings, and a long list of evaders who operated in the shadows". As stated, it is not necessarily illegal to own an offshore company, but it can serve as a cover for various crimes, such as money laundering or terrorism. The different journalists who participated in the analysis of the information managed to determine that there are links between offshore companies and political leaders, businessmen, people linked to finance as well as artists. It was determined that "35 world leaders hid their fortune in tax havens." Among these are King Abdullah II of Jordan, Prime Minister of the Czech Republic Andrej Babiš, and the presidents of Chile and Ecuador, Sebastián Piñera and Guillermo Lasso, respectively. Among the celebrities linked to this leak are Shakira, Pep Guardiola, Julio Iglesias, Chayanne, Claudia Schiffer, Ringo Starr, Elton John or the writer Mario Vargas Llosa.

Company	Documents	Period	Location	The foundation year
All About Offshore Limited	270 328	2002–2019	Seychelles	2007
Alemán, Cordero, Galindo & Lee	2 185 783	1970–2019	Panama	1985
Alpha Consulting Limited	823 305	1996–2020	Seychelles	2008
Asiaciti Trust Asia Limited	1 800 650	1996–2019	Hong Kong	1978
CCS Trust Limited	149 378	2001–2017	Belize	2005
CIL Trust International	459 476	1996–2019	Belize	1994
Commence Overseas Limited	8661	2004–2017	British Virgin Islands	1992
Demetrios A. Demetriades LLC	469 184	1993–2021	Cyprus	1966
Fidelity Corporate Services Limited	213 733	1998–2019	British Virgin Islands	2005
Glenn D. Godfrey and Company LLP	189 907	1980–2019	Belize	2003
Il Shin	1 575 840	1996–2020	Hong Kong	2004
Overseas Management Company Inc	190 477	1997–2020	Panamá	1961
SFM Corporate Services	191 623	2000–2019	Switzerland UAE	2006
Trident Trust Company Limited	3 375 331	1970–2019	British Virgin Islands	1986

*Table 1: The documents and companies mentioned in the Pandora Papers*

In total, 35 current and former national leaders appear in the leak, alongside 400 employees from nearly 100 countries. Among these names are former UK Prime Minister Tony Blair, Chilean President Sebastián Piñera, Kenyan President Uhuru Kenyatta, Montenegrin President Milo Đukanović, once again the Ukrainian President Volodymyr Zelensky, Qatari Emir Sheikh Tamim, Gabonese President Ali Bongo Ondimba and Ecuadorian President Guillermo Lasso. More than 100 billionaires, 29,000 offshore accounts, 30 current and former leaders, and 336 politicians were mentioned in the first leaks as of October 3, 2021. Jordan's King Abdullah II is one of the main figures cited in the leaks, with documents showing he has invested more than \$100 million in properties in the UK and US; they included homes on Cliffside Drive, Malibu, Washington, D.C., London and Ascot in the UK. Other global names mentioned include once again singer Shakira, who was incorporating new offshore entities while on trial for tax evasion; supermodel Claudia Schiffer; Indian cricketer Sachin Tendulkar; Pakistani Finance Minister Shaukat Fayaz Ahmed Tarin and several family members of Pakistan's top generals, and Channel One Russia CEO Konstantin Ernst. Miguel Bosé, Pep Guardiola and Julio Iglesias are also mentioned. In Brazil, the Minister of Economy, Paulo Guedes and the President of the Central Bank of Brazil, Roberto Campos Neto, were also mentioned in ICIJ's periodical investigations. The actor and politician Volodymyr Zelenski, the current president of Ukraine, had shares in the company Maltex Multicapital Corp, registered in the British Virgin Islands. According to the Pandora Papers, the purpose of this entity was to have shares in film production and distribution companies. In March 2019, a month before he won the election, Zelensky transferred his shares to Sergiy Shefir, a close friend and business partner who later became one of his top political advisers in Kyiv. It led to the downfalls of his popularity, and only the war made him popular again.

## 7. PROFIT SHIFTING

BEPS (from the English “Base Erosion and Profit Shifting”, or otherwise “Erosion of the tax base and transfer of benefits”) is the term that designates, in international taxation, the tax planning strategies used by multinational companies to take advantage of the discrepancies, gaps and inconsistencies in national tax systems and transfer their profits to countries with little or no taxation, where entities hardly carry out any economic activity and thus avoid paying corporate tax. It refers to “corporate tax planning strategies used by multinationals to “shift” profits from higher-tax jurisdictions to lower-tax jurisdictions or no-tax locations where there is little or no economic activity, thus “eroding” the “tax-base” of the higher-tax jurisdictions using deductible payments such as interest or royalties” (Dharmapala, 2014). According to OECD estimates, the use of such schemes allows TNCs to reduce taxation by 4 to 8.5 percentage points. Among the OECD and G20 countries, this is from 4% to 10% of corporate taxes, or from \$100 billion to \$240 billion. Also there is a thing known as the BEPS project is the initiative launched by the OECD as of 2013 that tries to combat these tax avoidance practices at the international level. Traditionally, international economic organisations such as the OECD had dealt with correcting international double taxation problems derived from the internationalisation of the economy, but the fiscal crisis derived from the economic crisis that began in 2008 and the growing erosion of the tax bases corresponding to business profits have led to move the issue to avoid international double non-taxation or the intentional and illegal reduction of taxation on income or international assets, by taking advantage of the disparate tax treatment between the different tax jurisdictions and the use of planning schemes prosecutor, which in many cases can be described as aggressive or abusive. Major loopholes and legal challenges in cross-border business are:

- Legislative differences between countries
- Digital delivery of goods and services
- Internal transactions

- Transfer pricing
- Ineffective measures to combat tax evasion
- Preference regimes

In January 2017, the OECD estimated that BEPS instruments were responsible for approximately \$100-240 billion in tax losses per year. Research by tax expert Gabriel Zucman (and others) in June 2018 estimates that figure to be close to \$200 billion per year (Zucman et al, 2018). The Tax Justice Network estimates that \$660 billion in profits "slipped" in 2015 (the largest single BEPS transaction in history due to Apple's restructuring of the genius economy in the first quarter of 2015 (Setser, Frank, 2018). The impact of BEPS instruments was felt most in developing economies, which were deprived of the tax revenues needed to build infrastructure, thus perpetuating the inequality in economy and HDI between the rich and the poor countries. The majority of BEPS activities are associated with Intellectual Property ("IP"), i.e. Technology (eg. Apple, Google, Microsoft, Oracle are amongst the most notorious) and Life Sciences (eg. Allergan, Medtronic, Pfizer and Merck & Co). The economy is changing to become more digital and knowledge-based, so it is the main challenge for the legal systems and jurisdictions around the world, and the national jurisdictions must cooperate and create the supranational laws to hunt the profit shifring and boost the exchange of information. By the way, IP is defined as "the raw material" for tax evasion, and IP-based BEPS tools are responsible for the largest global revenue streams of BEPS. The legal framework for the fight against the profit shifting is long way ahead, and some initial steps are being done recently.

## 8. CONCLUSION

There is a growing concern among the developed and less developed nations about the "deprived wealth", physically stolen from the nations and taken away to the other countries, where there was virtually business done; just because the taxes are so low. This is the practice as old as humanity, and with the Intellectual Property as a main asset in the portfolio, it is increasingly easy to hide profit since it is not instantly visible as the buildings, merchandise or physical goods. Services and data are flowing across the World Wide Web and many companies try to perform the legal act tax avoidance (as opposed to the tax evasion, which is illegal), which is deeply immoral. Profit shifting is basically stealing billions of revenue money every year from the places where the business is done, to the places where money is cheap and taxes are low. A better coordination between the countries, first at the EU level, and then at the Pan-European of planetary level, would lead to the better tax collection and bigger budgets, thus making tax heavens like Luxembourg or Liechtenstein or many Caribbean islands less rich and eventually, obsolete. But the aim is long way ahead.

## LITERATURE:

1. Anin R. (2014) «Landromat». *Kto i kak vyvel iz Rossii počti 20 mlrd dollarov* // Novaya gazeta
2. Awai, Y. (April 23, 2016). "A third of Panama Papers shell companies set up from Hong Kong, China". Nikkei Asian Review.
3. Azerbaijani Laundromat shows how regime robs its people to feed itself, The Guardian
4. Cohen, P. (January 19, 2016). "Wealth inequality rising fast, Oxfam says, faulting tax havens". Boston Globe.
5. Dharmapala, D. (2014). "What Do We Know About Base Erosion and Profit Shifting? A Review of the Empirical Literature". University of Chicago. p. 1
6. Ferré, J.-M. (6 de octubre de 2016). «Expertos llaman a poner fin al secreto de los paraísos fiscales tras divulgación de los "Bahama leaks"» (html). Centro de Noticias ONU.

7. Font, M. (22 de diciembre de 2016). «Los 'facilitadores', intermediarios imprescindibles para hacer funcionar la industria de la elusión y el fraude». Público (España).
8. Garside, J. Harding, L. Holly D. Watt, I. (April 5, 2016). "London law firm helped Azerbaijan's first family set up secret offshore firm: Panama Papers shine light on hidden property portfolio of President Aliyev's daughters". The Guardian
9. Ismayilova, K. (5 September 2017).
10. Molina, M. E. (Octubre 2018), *Paraísos Fiscales. Acuerdos de Intercambio de Información. Trabajo final para la carrera de Especialista en tributación*. Escuela de Graduados de la Facultad de Ciencias Económicas de la Universidad Nacional de Córdoba. Pág. 5
11. Obermayer, B; Frederik, F; Wormer, V; Jaschensky, W (3 de abril de 2016). «Panama Papers Die Geheimnisse des schmutzigen Geldes»
12. Roque, S (8 November 2017), How They Did It: *The Azerbaijani Laundromat*, Global Investigative Journalism Network).
13. Setser, B, Frank, C. (25 April 2018). "Tax Avoidance and the Irish Balance of Payments"
14. Tilouine, J. ICIJ (April 4, 2016). "Les Africains du Panama (1): les circuits offshore des 'fils de'". Le Monde
15. Tkachev I. i dr. (21 marta 2017) *Moldavskaya prachechnaya: kak iz Rossii vyvodili \$20 mlrd*. RBK
16. Zoromé, A. (April 1, 2007). "Concept of Offshore Financial Centers: In Search of an Operational Definition" (PDF). IMF Working Papers. International Monetary Fund. p. 4.
17. Zucman, G. Torslov, T. Wier, L. (June 2018). "The Missing Profits of Nations". National Bureau of Economic Research, Working Papers. p. 31. Appendix Table 2: Tax Havens

## **BUREAUCRACY AS A POLITICAL ACTOR: AN INEFFICIENCY CURSE?**

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### **ABSTRACT**

*This paper addresses the issue of bureaucracy as a political actor, whether promoting efficiency or, conversely, introducing entropy and generating inefficiency even. This topic has been motivating reflections and fierce discussions, from classical to the present times. Furthermore, judging by the results of this research, one can argue that the question remains open. Indeed, divergences persist between authors who recognize the usefulness of bureaucracy and other who condemn it, while not observing any advantage. The existing difference of opinions results essentially from divergent views on bureaucracy. Such discussions are mostly between, on the one hand, the favorable mainstream political current in favor, which defends the affirmation and primacy of the public State above the privates, and, on the other hand, the approach against the misjudges of the State, especially when it indiscriminately seeks through the bureaucracy to achieve their own interests, at any cost, nevertheless. Such Machiavelli approach may, unfortunately, produce an effect totally contrary to the goodwill of implementing an archetypal bureaucratic model. Such undesired effects, may have a significant impact on output, with many arguing that they inevitably lead to inefficiency. This paradox is the most challenging and puzzling issue discussed in the literature about bureaucracy. In other words, bureaucracy is defended by some as a way of professionalization and depersonalization, to regulate the activity between the State and individuals (Weber, 1991). It is assumed that bureaucracy avoids promiscuity, keeping the system running fluid and fair, regardless of the people, according to the established rules and procedures. Despite the questioning and the widespread doubts, bureaucracy remains a need in order to regulate the Governments/State's activity and relationships with private individuals. However, the bureaucracy phenomenon is regarded by many as a severe obstacle to innovation, particularly highlighted by the current technological and digitalization era.*

**Keywords:** Bureaucracy, Bureaucrats, Efficiency, Regulation, State, Political Actors

## 1. INTRODUCTION

The term "bureaucracy" was first invoked by Vincent de Gournay, in the 18<sup>th</sup> century, in France, allegedly to refer disparagingly to the officials of the French absolutist state administration (Tojal & Carvalho, 1997). In opposition to the bureaucratic model, Gournay defended the maxim "laissez faire, laissez passer", which would become eternalized as the motto of economic liberalism. On the other hand, Max Weber was not against bureaucracy. In fact, the author saw the bureaucracy as a vehicle for the State to regulate its activity with the private sector. Indeed, according to Weber, with recourse to qualified and dedicated professionals, the State would achieve effectiveness. The difference of opinion gives rise to discussions between, on the one hand, the current in favor, which defends the affirmation of the State above the private ones, and, on the other hand, the current against that misjudges the State, especially when it indiscriminately seeks through the bureaucracy and at any cost, to achieve their own interests, producing an effect totally contrary to what was initially desired. That is, inevitably leading to inefficiency. Thus, this paradox is the most recurrent challenge in the literature about bureaucracy. In other words, bureaucracy is defended by some as a way of professionalization and depersonalization, to regulate the activity between the State and individuals (Weber, 1991). It is assumed that bureaucracy avoids promiscuity, keeping the system running fluid and fair, regardless of the people, according to the established rules and procedures. However, on the other hand, bureaucracy often becomes hopeless for the users of the system, especially the less prepared and socially placed. In practice, in certain cases the bureaucracy reaches worrying levels, reaching to be endowed with autonomy, power, even forming, in certain contexts, a class. For example, in the regime of the former Soviet Union, where the party bureaucracy came to dominate all means and levels of life in society, this gave rise to a true ruling class. Also, when the phenomenon of bureaucratization grows to the point of becoming a way of life, characterized at work, by the hierarchy and stability of employment, and in social dynamics, by the homogenization of procedures, which lead to routine, with career progression determined by the age, to the detriment of merit and innovation. Thus, whether for or against, bureaucracy is a reality of the State, having many implications for the functioning of democracies. For this reason, there are several authors who dedicate themselves to its study, highlighting the classics of the literature of the specialty, such as: Max Weber, Wilson, Hegel, Marx, Lenin, and Trotsky. Although these authors attribute social and political legitimacy to bureaucracy, they usually do not analyze the phenomenon by itself, considering it structurally dependent on other social disciplines. Such discussion is seemingly everlasting, as it continues nowadays (vid e.g. Boräng et al., 2018, Carpenter, 2001, Cornell et al., 2020, Dasandiet al., 2017, De Vries and Nemec, 2013, Dunleavy et al., 2006, Horn, 1995, Lapuente, 2007, Pepinsky et al., 2017). It is based on this theoretical background that the present essay arises, giving special attention to bureaucracy as a political actor. That is, the bureaucracy as a social space where the struggle for power takes place and the conflicts of interest that emerge from the public and private sectors are fought. In this way, the present essay portrays the theme of political bureaucracy, in the context of the discussion of its effectiveness versus instrumentalization and total inefficiency. To this end, the essay is structured in five sections, including this introduction. In the second section, a description of the investigation and writing of the essay is made. In this section some questions are raised, and the objective of the essay is to seek the answers. In the third section, a review of the concept of bureaucracy in different lines of thought is made. In the fourth, the critical factors of bureaucracy and bureaucrat are presented, with the objective of tracing a profile of both. Finally, in the fifth, the final considerations are presented.

## 2. METHODOLOGY AND OBJECTIVES

From the synthesis of the problem mentioned above, it can be concluded that bureaucracy appears, in the first place, as a solution for States to regulate activity with citizens.



But there are several criticisms of its inefficiency. Thus, in this essay we will try to make a brief review of the literature on the subject, seeking to identify the most relevant issues in terms of bureaucracy as a political actor, namely:

- What is bureaucracy?
- What is a bureaucrat?
- What is the traditional view of bureaucracy?
- What are the essential factors for its good functioning?
- What are the factors that lead to its inefficiency?

To try to answer these and other questions, we first made a review of literature. Then, a summary of the questions and doubts raised in these texts was made. Finally, based on the same readings, we tried to identify the answers to these questions, analyzing them in the light of the still limited personal and professional experience. Below are presented the results of this research.

### **3. BUREAUCRACY: CONCEPT AND RESEARCH LINES**

As we introduced above, there is a significant literature on bureaucracy that results from investigations initiated in the 18<sup>th</sup> century by classical authors, in disciplines such as sociology and philosophy. In this line, Hegel considers the bureaucracy to be a link between civil society and the State (Aragon, 1997). What can be inferred that it would have the function of regulating and mediating the general interest, the State, and the interest of individuals. In Max Weber's Theory of Bureaucracy, the concept of bureaucracy is presented as an instrument of organizational efficiency, and to achieve efficiency, all formal details must be taken care of in advance, to avoid personal interference that ends up complicating the process. To this end, Weber developed a concept of bureaucracy based on a set of legal elements, conceived by jurists. In this perspective, the term was used to indicate public administration functions, guided by rules, specific attributions, well-defined spheres of competence and criteria for the selection of officials. Thus, according to Weber, bureaucracy can be defined as a technical-administrative body, formed by specialized professionals, selected according to rational criteria and who oversaw several important tasks within the system. Marx introduced the relations between social classes in the analysis of the concept of bureaucracy, justifying the tensions. Indeed, Marx highlights bureaucracy in production relations, considering it to be an expression of the class struggle, namely an instrument of class domination in capitalist society, at the service of the dominant classes. Referring to the French bureaucracy of the Napoleonic period, Marx describes it as an army of officials totaling half a million, characterizing it as a tremendous body of parasites capable of enveloping and conditioning with its web the generality of society. Later, along the same lines, Lenin and Trotsky reinforced the idea that bureaucracy translates into a parasitic body on bourgeois society, emerging in the internal contradiction that divides society and is recruited from the middle and lower strata of society, thus separating a part of its members from the rest of the people, linking it to the ruling class. It should be noted that Lenin and Trotsky considered bureaucracy and bureaucrats a threat to parliamentary power, envisioning their ability to turn against the State, and at that time they should be eliminated, and they disagree with Marx not recognizing the social class dimension of bureaucrats. In turn, Woodrow Wilson, an author who has the particularity of having been an academic who held the US presidency between 1913 and 1921, defended the clear separation between bureaucrats and politicians and their respective activities, leading politicians to act within the scope of public policy options, and bureaucrats were limited to implementing them, as technical and neutral agents (Olivieri, 2011). Wilson developed his work and concepts of bureaucracy in the context of the discussion of the first American administrative reform, which was passed in 1883, originating the law known as the Pendleton Act (Wilson, 1887).

Since then, it has been mandatory to carry out a public tender for the recruitment of certain civil servants, having been the first step in a long-term process of affirmation of a meritocratic bureaucracy.

#### 4. BUREAUCRACY AND THE BUREAUCRAT

According to most of the literature, bureaucracy is the regulatory element of activity between the State and individuals. The difference of opinion resides in the use of bureaucracy and in the attitude and profile of the bureaucrat, directly or indirectly related to the instrumentalization and politicization of the State. Among the arguments favorable and unfavorable to the functioning of the bureaucracy, which are at the origin of a bureaucrat profile, the following stand out:

<b>Pro-bureaucracy arguments</b>	<b>Arguments against bureaucracy</b>
<b>The duty of each employee in doing a certain type of work is delimited in terms of impersonal criteria.</b>	Internalization of rules and adherence to regulations, with norms becoming the priority goals of bureaucracy.
<b>The means of coercion at your disposal are strictly limited and your use is strictly defined.</b>	The excess of formalism and paperwork leads to a need to document and formalize all communications within the bureaucracy, giving rise to an excess of formalism and an abundance of paper.
<b>The responsibility and authority of each employee is part of a vertical authority hierarchy, with respective oversight and appeal rights.</b>	Resistance to change, as an obstacle to innovation, the result of routine and standardized and predictable behaviors.
<b>Employees do not own the resources necessary to perform their assigned roles but are responsible for the use of those resources.</b>	Abuse of dominant position and retaliation for conflicts or personal differences.
<b>Official business is conducted based on written documents.</b>	Exploitation and promiscuity.

*Table 1: Pros and cons of bureaucracy  
(Source: Adapted from Weber (1982) and Crozier (1963) cit in Lopes (1973))*

It is based on these principles that the same lines of thought arise different bureaucratic employee profiles according to the lines of thought for or against bureaucracy, as shown in table 2 below.

*Table following on the next page*

<b>Bureaucracy supporters</b>	<b>Opponents of bureaucracy</b>
<b>He is personally free and appointed to the position on the basis of his qualifications for the position.</b>	He is normally committed to some living force in society, which prevents him from being impartial.
<b>It exercises delegated authority, according to impersonal rules, and its loyalty is related to the faithful execution of its official duties.</b>	If a problem occurs in the lower hierarchy, the higher hierarchy will not have full knowledge of the facts. However, due to the rules, decision-making is always an obligation of managers. Soon they often make the wrong decision about problems they don't know about.
<b>The appointment and designation of the place of work depend on your technical qualifications.</b>	Excess specialization is a problem, as the employee, when performing only one function, becomes a prisoner of it. This situation causes serious physical and mental exhaustion for the bureaucrat. In addition, this measure provides the inhibition of any behavior outside the established standards, in particular, creativity, which is essential today.
<b>Work is a full-time occupation.</b>	In general, bureaucrats do not know how to quantify the level of documentation required, taking refuge in the rules.
<b>The work is rewarded by a regular salary and there is a prospect of career progression for life.</b>	Difficulty in dismissal and consequent replacement of the bureaucrat. Soon there will be the emergence of the reprimanding or defensive informal organization on this behavior, acting in a conservative and hindering rather than facilitating way.

*Table 2: Bureaucrat Profile*

*(Source: Adapted from Weber (1982) and Crozier (1963) cit in Lopes (1973))*

## 5. CONCLUSIONS

It should be noted that in this brief review of the bureaucracy theme, there is a gradual transition from the bureaucracy reflection of the academy to the application in practice. It is also felt, albeit slowly, that it tends towards the appreciation of merit initiated by Wilson in the USA; and, at the limit, it moves towards the reduction of bureaucracy required by the modern organization, based on knowledge, technology, and mobility. Despite this, there is still a lot of difficulty in locating the place of bureaucracy, especially in space, given that some authors have debated it in the philosophical and sociological context, others on the social level of class struggle, and still others on the political level. It is important to mention that, practically always, bureaucracy has had a negative image, since the times of French absolutism, but it has survived. But, in the end, it seems to be totally threatened, as Keynes predicted when he concluded that the essence of modern bureaucracy is that a stable, balanced system, producing consistent profits without resorting to the expansion of capital, personnel or production, scares the leaders and is condemned to be seen by society as useless. Despite the previous condemnation of bureaucracy, we can conclude that the ideal bureaucrat would have a professional profile, independent, qualified for the function and non-partisan.

On the other hand, authors against bureaucracy refer disparagingly to the bureaucrat for being totally the opposite and behaving totally different, contrary to the traditional view of bureaucracy and those who defend it. Thus, recovering the initial questions, we can say that the necessary definitions for the answers depend a lot on the authors' perspective. That is, if they are against or in favor of bureaucracy and the bureaucrat himself. Bureaucracy as a political actor: an inefficiency curse? Well, it may not be possible to answer this question in an irrefutable way. Nevertheless, it is possible to argue that this question matter is cursed to remain subject to fierce discussions among politicians, researchers, and society, in general.

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## LITERATURE:

1. Aragão, C. (1997). Burocracia, eficiência e modelos de gestão pública: um ensaio. *Revista do Serviço Público*, 48(3), 104-132
2. Lopes, S. (1973). Burocracia: Prospeção de um conceito. *Análise Social*, 10(37), 2nd series, 51-78.
3. Olivieri, C. (2011). Os controles políticos sobre a burocracia. *Revista de Administração Pública*, 45(5), 1395-1424.
4. Tojal, F. & Carvalho, W. (1997). Teoria e prática da burocracia estatal. *Revista de Administração Pública*, 31(1), 50-68.
5. Weber, M. (1991). *Economia e Sociedade*. Brasília, UnB.
6. Weber, M. (1982). *Ensaio de Sociologia*. Rio de Janeiro: Guanabara
7. Wilson, W. (1887). The study of administration. *Political Science Quarterly*, 2(2), 197-222.
8. Negri, J.J. (2021), Bureaucracy and Politics, Peters, B.G., Tercedor, C.A. and Ramos, C. (Ed.). *The Emerald Handbook of Public Administration in Latin America*, Emerald Publishing Limited, Bingley, 289-317.
9. Boräng F, Cornell A, Grimes M, Schuster C. 2018. Cooking the books: bureaucratic politicization and policy knowledge. *Governance* 31(1):7–26
10. Carpenter D. 2001. *The Forging of Bureaucratic Autonomy: Networks, Reputations and Policy Innovation in Executive Agencies, 1862–1928*. Princeton, NJ: Princeton Univ. Press
11. Cornell A, Knutsen CH, Teorell J. 2020. Bureaucracy and growth. *Comp. Political Stud.* 53(14):2246–82
12. Dasandi N, Esteve M. 2017. The politics-bureaucracy interface in developing countries. *Public Adm. Dev.* 37(4):231–45
13. De Vries M, Nemec J. 2013. Public sector reform: an overview of recent literature and research on NPM and alternative paths. *Int. J. Public Sect. Manag.* 26(1):4–16
14. Dunleavy P, Margetts H, Bastow S, Tinkler J. 2006. New public management is dead—long live digital-era governance. *J. Public Adm. Res. Theory* 16(3):467–94
15. Horn M. 1995. *The Political Economy of Public Administration*. New York: Cambridge Univ. Press

16. Lapuente V. 2007. *A political economy approach to bureaucracies*. PhD Diss., Univ. Oxford
17. Pepinsky TB, Pierskalla JH, Sacks A. 2017. Bureaucracy and service delivery. *Annu. Rev. Political Sci* 20:249–68

## THE SOCIAL RESPONSIBILITY/ FINANCIAL PERFORMANCE CAUSALITY IN TIME OF COVID, THE CASE OF MOROCO

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### ABSTRACT

*The current business environment is undergoing profound changes. On the one hand, the effects of economic globalization, multilateral trade agreements and new customer requirements, and on the other hand, an unprecedented health crisis, COVID-19. During the Covid-19 crisis, the concept of Corporate Social Responsibility (CSR) has occupied an essential place in the life of any company through the constitution of a socially responsible image in the eyes of third parties and its integration as a new mode of crisis management and as a performance lever allowing the company to resist the current financial and economic shocks. In this paper we will first give a historical overview of CSR, then define CSR, financial performance, the SMB, the role of the SMB on economic growth, then cite the organizational theories related to the importance of CSR in times of crisis, to finally detail the economic impact of health measures to counter the COVID 19; developed by the High Commission for the plan as well as recommendations.*

**Keywords:** *Corporate Social Responsibility, Financial performance, Small and Medium Business SMB, Covid 19*

### 1. INTRODUCTION

The pandemic of COVID 19 that began in China in late 2019 has created a global economic crisis, indeed; to stop the spread of the virus several countries have had to make containment measures that limit the movement of the population. This economic crisis is unprecedented, by its magnitude and its speed of diffusion on a planetary scale. It combines a supply shock as companies stop or slow down and a demand shock as consumption decreases. Like other countries in the world, the Moroccan economy has been affected by this crisis since March 2020, a crisis that has upset the economic situation of the Kingdom and changed all the forecasts and economic prospects of the country, which has affected all the actors of the society and on all levels, has repositioned the company at the heart of its social utility. It has provided concrete and pragmatic proof of what corporate social responsibility means: contributing to the general interest and serving the common good. CSR is therefore reinforced today by this crisis, which gives it its full meaning and shows its great relevance. The Covid 19 health crisis, unlike any other type of economic or financial crisis, whether national or global, has revealed the importance of corporate social responsibility. CSR is no longer an option today, it is a necessity that must be integrated into the global strategy of the company, whatever its size, and is integrated into an ecosystem where interactions with internal (employees, social partners) and external (citizens, customers, suppliers, civil society, authorities, media...) actors in the company's sphere necessarily lead it to evolve its strategy in order to integrate the expectations of its stakeholders if it wants to survive. The first discussions on CSR at the corporate level began in the 1950s. However, it is since the 1990s that the theme of CSR begins to take part in management science research. Corporate social responsibility is a notion that is increasingly emphasized by both practitioners and theorists.

In fact, over the last few decades, several research studies have focused on this notion and more specifically on the relationship between social and financial performance, in this communication we will give an overview, firstly the historical, conceptual and theoretical framework of CSR, secondly how Morocco faces the crisis Covid 19 , and finally the CSR as a performance lever for the post-Covid-19.

## **2. THE HISTORICAL, CONCEPTUAL AND THEORETICAL FRAMEWORK OF CSR**

### **2.1. A brief review of the CSR literature**

The origins of CSR go back to the 19th century. It is the advent of the generalization of social laws in the 20th century, notably laws relating to social security, collective agreements and works councils, which gave CSR a legal, conventional and institutional character (Segal and Sobczak, 2003). However, it was following the economic, social and financial scandals in the corporate world in the 1970s that the debate on corporate social responsibility really took off with the pressure exerted by trade union organizations, human rights groups and other citizen movements against the dubious practices of certain companies. Corporate social responsibility thus emerged with industrial society and the development of firms, but only took fundamental shape in the 1960s. This notion developed mainly in the United States, and then spread to Europe and the rest of the world. The concept of corporate CSR was initiated in companies by the work of *Bowen (1953)*, the latter and considered the founder of this research trend in the United States through his book "Social Responsibilities of the Businessman" , brought the expression of Corporate Social Responsibility (CSR) into the modern era of management. CSR is defined as "an obligation for business people to implement policies, make decisions and follow courses of action that meet the goals and values considered desirable in our society" (Lépineux et al., 2016)). CSR takes the form of good practices in the different areas it covers. Thus, good social practices summarize all the implications inherent to the very existence of the company in its internal and external environment: ensuring the employability of its employees through training, allowing them to flourish by ensuring a good balance between professional and private life, ensuring equal opportunities between men and women, respecting diversity, etc (Chauveau and Rose, 2010) (Chauveau and Rose, 2003).

### **2.2. The conceptual framework CSR / Financial performance / SMB / ISO2600**

#### **2.2.1. Corporate Social Responsibility**

The European Commission defines the objective of CSR as "the responsibility of companies for the effects they have on society. To assume this responsibility, legislation and collective agreements must be respected. And to do so fully, a process must be undertaken in close collaboration with stakeholders to integrate social, environmental, ethical, human rights and consumer concerns into business operations and core strategy.

#### **2.2.2. The International Organization for Standardization (ISO)**

The International Organization for Standardization (ISO) standards allow companies to comply with international standards. These standards define the conditions and practices that guide companies wishing to develop a strategy in this area, all while optimizing costs and respecting the environment. The ISO 26000 standard (2015), defines the objective of the main lines of social responsibility: "the responsibility of an organization towards the impacts of its decisions and activities on society and the environment, resulting in a transparent and ethical behavior that contributes to sustainable development including health and well-being of society. This behavior must also take into account the expectations of stakeholders and respect the laws in force. In addition, it must be compatible with international standards, integrated throughout the organization and implemented in its relationships."

### *2.2.3. The very small and medium-sized Business*

According to the Dahir n° 1-02-188 of July 23, 2002 promulgating the law n° 53-00 forming the Charter of the small and medium-sized enterprise, the very small and medium-sized business (SMB) are those whose turnover is lower than 75 million DH and whose workforce is lower than 200 employees. Very small businesses (SMB) are defined as units with a turnover of less than 3 million DH and a workforce of less than 10 employees. Large business are those with a turnover of more than 75 million DH or a workforce of more than 200 employees. According to this law, a SMB is any enterprise managed and/or administered directly by the natural persons who are its owners, co-owners or shareholders, and which is not held for more than 25% of the capital or voting rights by an enterprise or jointly by several enterprises which do not correspond to the definition of SMB. This threshold can be exceeded if the enterprise is held by:

- collective investment funds capital investment companies
- venture capital investment organizations
- financial organizations duly authorized to call on public savings in order to make financial investments, provided that they do not exercise, individually or jointly, any control over the company.

SMB play a crucial role in the Moroccan economy and constitute a real engine of development at the local level in the various regions. Today, they constitute more than 90% of the total number of companies established throughout the Kingdom. In addition to its weight in the Moroccan economic fabric, the SMB is an extremely important contributor to job creation and this participates in the fight against poverty through social and economic inclusion.

### *2.2.4. Financial performance*

According to Bouquin, 2004, performance is associated with three fundamental principles: economy, efficiency and effectiveness. Economy consists of obtaining resources at the lowest cost; efficiency relates results to means and allows the quantity produced from a given quantity of resources to be maximized (by relating a result indicator to an indicator of capital employed: profitability, productivity, etc.). Finally, efficiency, which reflects the company's ability to achieve its objectives and goals. FP is measured essentially by financial and operational self-sufficiency as well as by the achievement of a profitability maximizing the efficiency and productivity of the personnel. Financial performance summarizes the financial health of the company and includes the major financial balances. The financial performance of the company is measured by a set of indicators and ratios. In this study, we have chosen the indicators that are directly related to the application of CSR in the company.

## **2.3. Theories used**

Referring to organizational theories, we note that the crisis is an opportunity for companies to strengthen their relationships with stakeholders and consolidate their brand image and reputation. In this context, CSR is an aspect of adaptation of the company to its environment, a crisis strategy and a lever for managing its organizational performance. The evolution of the concept of CSR has gone through several theoretical approaches that have developed it without arriving at a uniform definition. Each author tries to study this concept from a different angle, taking into account the characteristics of his study environment and the evolution of stakeholder requirements that influence the company. In this article we will try to focus on three essential theories. Firstly, the Stakeholder Theory (ST), which will allow us to identify the most salient stakeholders for a company; secondly, the Neo-Institutional Theory, which can explain the relationship between institutional pressures and the responsible commitment of companies via their CSR approaches; and finally, The Resource Dependence Theory (RDT) which states that



the firm is dependent on the necessary resources provided by its internal and external environment to carry out its core business.

### *2.3.1. Stakeholder Theory (ST)*

The stakeholder theory: initially formulated by R.E. Freeman in 1984 consists of showing "that a stakeholder is an individual or group of individuals who can affect or be affected by the achievement of organizational objectives" (Carroll and Buchholtz, 2000). In the context of CSR, Spence & al. specify that according to this theory the company must involve all stakeholders in its decision-making process and try to meet their expectations in all situations including that of the crisis. The strategic vision of CSR implies, therefore, knowledge of stakeholders. Thus, Morris (1987) showed that the visibility of a stakeholder depends on the combination of its power to influence the company, the legitimacy of its relationship with it and the urgency of its claims. In addition, the importance of one stakeholder in relation to another depends on the vision that the manager has of it. CSR in SMEs is based on a principle that calls for interdependence between the interests of the various stakeholders, depends on the presence of sustainability principles in the manager, and calls for a leadership style that better integrates CSR into his or her strategic vision Carroll's model (1979). This model is based on three essential foundations of Corporate Social Performance (CSP) which are complementary. First, the firm must define precisely what it means by CSR, then it identifies and clearly states the social problem it faces, and finally it commits to providing a relevant response to this question. The PES is defined as the set of obligations that a company has towards its stakeholders, which includes several levels, namely the economic, legal, ethical and voluntary levels. These different dimensions were outlined by Carroll in the CSR pyramid.

### *2.3.2. The neo-institutional theory*

To recognize institutions and their role in CSR analysis models, the neo-institutional current emphasizes the set of rules and values conveyed by institutions to help understand the behaviors of organizations (Labelle, Aka and Pichette, 2013). Stakeholder pressures are not the only source of pressure on corporate strategy and survival. Indeed, changes in legislation and regulations, the degree of economic development of a given sector, and technological innovations are also elements that can prompt a company to develop a CSR strategy in order to comply with its new environment and maintain its legitimacy. According to Quairel and Capron (2004), this legitimacy manifests itself in an institutional environment through a set of laws and norms that govern relations between people and push companies to play a defined role. Thus, this theory assumes that the SME is always influenced by its external environment and by the expectations of its stakeholders.

### *2.3.3. Resource Independence Theory*

The Resource Dependence Theory (RDT) states that the firm is dependent on the necessary resources provided by its internal and external environment to carry out its core business. Pfeffer and Salancik (1978) raised interdependence between this theory and the stakeholder theory by explaining that favorable relationships with certain stakeholders expose not only cost savings but also significant revenues. According to Hillman, the theory of resource dependence (TDR) occupies a primordial place in strategic management since the strategic resources of the company provide them with their competitive advantage. With respect to SMEs, the resource independence theory encourages these firms to approach the interests holding the indispensable resources through CSR practices to acquire them Morocco facing the crisis Covid 19.

## **2.4. Morocco's economy in the face of the crisis**

During the year 2020, marked by the occurrence of Covid-19, the national economy suffered the effects of both this pandemic and the drought, recording a contraction of 6.3% compared to growth of 2.5% in 2019. This contraction is the result of a decline of 5.8% for non-agricultural activities, 8.6% for the agricultural sector, 6% for domestic sector, 6% for domestic demand and 14.3% for foreign 14.3% for external demand. Thus, the real GDP per capita was established, in 2020, to 26,241 dhs, down 7.2% compared to 2019. This decline has brought the wealth created per capita back to the level recorded to the level recorded 5 years ago, in 2015, when it was growing at an average of 2% per year on average during the last five years prior to the health crisis. This situation has particularly penalized the activities of very small and medium business. According to the first pass survey, conducted by the HCP in April 2020 among companies, 72% and 26% respectively of production units temporarily or permanently out of business in April were VSB (very small business) and SMB (small and medium business).

## **2.5. Impact of COVID 19 on SMB (HCP)**

As of early April 2020, nearly 142,000 businesses, or 57% of all businesses, reported that they had permanently or temporarily ceased operations. Of this total, more than 135,000 firms had to temporarily suspend their activities while 6,300 ceased their activities permanently. By company category, very small companies represent 72%, SMEs (small and medium-sized companies) 26% and large companies 2% of the companies that have temporarily or definitively stopped their activities. The sectors most affected by this crisis are accommodation and catering, with 89% of companies at a standstill, the textile and leather industries and the metal and mechanical industries, with 76% and 73%, respectively, as well as the construction sector, with almost 60% of companies at a standstill. This situation had an impact on employment. In fact, 27% of companies had to temporarily or permanently reduce their workforce. Thus, according to the results of the survey, nearly 726,000 jobs would have been reduced or 20% of the workforce of organized companies. By category of company, this proportion, more than half of the reduced workforce (57%) are employees of VSB. 49% of MSB operating during the survey reference period would have reduced their production because of the current health crisis (a decline of 50% or more for 40% of these companies).

## **2.6. Measures taken to cushion the impact of the crisis**

The COVID 19 crisis was an opportunity for Morocco to accelerate the implementation of innovative methods to collect, analyze and derive useful information from Moroccan socio-economic data, in order to best support decision-making in an ethical, scientific and contextualized manner. Digitization, Artificial Intelligence and new technologies in general are already at the center of understanding the crisis around the world and will also generate lessons according to the experience made by government services, businesses and Moroccan civil society. Recognizing that reliable data and transparency contribute to both improved public policy and citizen confidence, Morocco has made significant efforts in transparency and data management, which strengthen compliance and public acceptance of measures. Morocco has seen the crisis as an opportunity to strengthen advanced regionalization and enhance the role of civil society, and has paid particular attention to the evolution of multidimensional poverty (income, health, education) and to planning an inclusive response, especially for the population hardest hit by the crisis, and therefore most vulnerable to falling into poverty. It had investing in the continuity of public services in health, education and administration during and after the crisis. Municipalities, provinces and regions have developed, with great speed, measures to facilitate access to their services for citizens, while trying to guarantee their protection. This was the case for administrative services which, when the conditions were right, were digitized,

but also for basic or emergency health services, which were maintained despite the pressure on the health system. The Economic Recovery Plan, Morocco has injected 120 billion dirhams, or 11% of GDP, to address the difficulties caused by the ongoing health crisis and to support the budgetary accompaniment of the sectorial recovery plans provided for in the Amending Finance Law. 75 billion dirhams of State-guaranteed credits will be dedicated to all business segments, including the Public Establishments and Enterprises most affected by the crisis, and 45 billion dirhams will be allocated to a Special Allocation Account entitled "Strategic Investment Fund". Moreover, the accelerated and effective implementation of this recovery plan is, in accordance with the Royal High Directions, one of the priorities of the Finance Law for the fiscal year 2021. The Moroccan State has taken several measures to support SMEs in terms of postponing the banking, tax, social and credit lines as the device "DAMANE OXYGENE" which is mainly aimed at very small and medium enterprises whose turnover does not exceed 200 million DH. These bank loans, which are in addition to existing lines, cover up to 3 months of current operating expenses (including salaries, rents and payment of necessary purchases) and can reach up to 20 million DH. A label (Certified Moroccan Content) has also been created to encourage the consumption of domestic products and stimulate the activity of companies in difficulty.

## **2.7. Recommendations**

The efforts provided by the Moroccan State are very important but insufficient to guarantee the survival and continuity of the activity of the VSB, then the committee of economic watch must think of adapting the measures to the sectors of activity and their follow-up to guarantee their effectiveness by a deep study of the needs for these companies, because it is not a question of improving only the financing, but to seek to accompany these SME so that they can draw the best from this financing. The current situation requires us to operate several levers at once while boosting public and private investment, consumption and exports. This calls for a lot of imagination and political courage in terms of budgetary and monetary choices, with quantitative and qualitative objectives for our socio-economic fundamentals in the short, medium and long term. Recourse to the budget deficit and external debt useful for financing wealth-creating investments, combined with the easing of prudential constraints, would be options to consider for an exit from the recession. Beyond the strategic vision induced by the new economy, it constitutes an opportunity for public investment in the sectors of public administration, health and education, which are the main engines of development in the country. These sectors will have to undergo a revolution through the adoption of digitalization thanks to new information technologies. Their piloting by a dedicated body would be a major contribution for the follow-up of the achievements with regard to the objectives which will be assigned to them. The introduction of e-government will undoubtedly bring efficiency, better performance, transparency and a better quality of service to the citizen. The adoption of new technologies (telemedicine, computerization of the health system, etc.) through the deployment of networking. This technological revolution is all the more necessary as the population living in remote areas suffers from a lack of access to rudimentary medical care. Similarly, e-education should be a real solution to the problems of our education system, which to date is struggling to find its way, and this through the democratization of access to education to all segments of the population and in particular to the population of the rural world which suffers from a high rate of school dropout for reasons often cultural and material. E-education should also be an appropriate solution for capacity building and the increase in competence of the teaching staff through the e-learning system. Nevertheless, we will witness a reconfiguration of economic power zones through the relocation of strategic industries to their countries of origin. The economic movement leads.

### **3. CSR: A PERFORMANCE LEVER FOR THE POST-COVID-19**

COVID 19, which continues to wreak havoc around the world, has proven to be a true test of the effective commitment of companies at all levels and has brought CSR (corporate social responsibility), long considered a mere bonus, to the forefront. This unprecedented crisis has highlighted the resilience of companies that have developed, or even fleshed out, a CSR strategy and taken into account their relations with their employees, suppliers and local communities, then transformed their organization appropriately. On the contrary, those who have considered CSR as a simple matter of reputation or communication have encountered more difficulties. Covid-19 appears to be a true test of Moroccan companies' effective commitment to CSR, highlighting that this crisis is an opportunity for companies to introspect their resilience, risk management and adaptability. According to Mr. Adil Cherkaoui, university professor at the Faculty of Legal, Economic and Social Sciences Ain Chock of the Hassan II University of Casablanca; Since the beginning of the crisis, companies with the best environmental, social and governance (ESG) ratings have shown a stronger resistance to the current economic and financial shock. This is empirical evidence of the relevance of CSR and the need to integrate extra-financial analysis in the evaluation of companies. CSR is part of the governance of the company, and touches every aspect of it (HR, Production, health, safety ..). In times of crisis, companies in Morocco have shown social and societal commitment, they have produced hydro alcoholic gel, mass masks, provided materials to help the sick and the medical profession, best practices. On an environmental scale, companies have started to telecommute because it reduces the need to travel to and from work. The result: less pollution and less congested public transport. Wellness at work is one of the pillars of CSR. In this sense, companies have shown their employees that they do everything possible to ensure their well-being on a daily basis, assistance, the supply of gel masks... Adding to this the respect of state of emergency, the preference of local consumption.

### **4. THE ROLE OF THE STATE**

The normative and regulatory framework in Morocco has continued to progress in recent years. In addition to the strengthening of corporate social responsibility approaches by companies making public offerings, Morocco has also developed investment products related to sustainability risks and/or with a positive societal and environmental impact. Thus, in the circular of February 20, 2019, the Moroccan Capital Market Authority (MCMA) introduced a requirement for improved transparency of issuers on the content, frequency, and relevance of the information disclosed. The circular requires issuers to include an ESG chapter in their annual financial report. Beyond the reporting aspect, this obligation questions these companies on what they do in terms of CSR and how they do it. Recalling that in May 2017, the AMMC and the Casablanca Stock Exchange had published the guide on "corporate social responsibility and ESG reporting" with the aim of promoting the CSR culture at the level of companies making public offerings in Morocco. The guide clarifies some concepts and presents a practical approach for the implementation of the CSR approach and ESG reporting. In addition, the AMMC published, in June 2018, a guide on "Green, Social & Sustainability Bonds" with a view to accompanying and encouraging the development of the market for financial instruments intended to finance sustainable development. This guide, which is a continuation of the Guide on Green bonds published by the Authority in November 2016, aims to open up more opportunities in sustainability financing, and this by introducing two new types of instruments, namely Social Bonds and Sustainability Bonds. For its part, Bank Al Maghrib (BAM) published its Social Responsibility Charter in 2018 to support Morocco's COP22 commitments. The charter defines the five commitments of the Central Bank, in the areas of Social Responsibility as well as the 22 actions that will be carried out by its different entities.

The five commitments concern ethical commitment, environmental commitment, commitment to employees, economic and civic commitment and "responsible purchasing" commitment. In my opinion, The state must put in place a more incentive framework, either in regulations or in taxation, to encourage companies to commit to the 4 dimensions of CSR. For example, if the state sets up a tax incentive on everything that is waste management, pollution reduction ... companies will make more efforts and invest or if the laws are more inciting; fiscal advantages for the companies which will make more efforts in term environmental and energy.

## 5. CONCLUSION

In conclusion, this article contributes to the understanding of the impact of the coronavirus on SMB in Morocco. We have noticed that CSR is the responsibility of an organization towards the impacts of its decisions, activities on society and the environment, resulting in an ethical and transparent behavior that:

- Contributes to sustainable development, health and well-being of society.
- Takes into account the expectations of stakeholders
- Complies with the laws in force while being consistent with international standards of behavior
- and is integrated throughout the organization and implemented in its relationships However,

The crisis of Covid 19 has allowed CSR to better settle, and impose itself as a necessity for survival to the crisis. As any contribution that wants to be scientific, our work suffers from some limitations of which we cite an empirical study that studies in the field the relationship of CSR and financial performance of VSB post Covid, to improve this work several new avenues of future research on this topic can be carried out, we propose a survey with a larger sample and research work to monitor the evolution of the impact of this health crisis on these companies.

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## LITERATURE:

1. François LABELLE, Kadia Georges AKA et Anne-Marie PICHETTE ,La RSE, du côté des PME Laboratoire de recherche sur le développement durable en contexte de PME Université du Québec à Trois-Rivières
2. Lépineux, François, Rosé, Jean-Jacques, Bonanni, Carole La RSE - La responsabilité sociale des entreprises : Théories et pratiques Ed. 2 , Editeur: Dunod ,Année de Publication: 2016
3. Archie B. Carroll University of Georgia Ann K. Buchholtz University of Georgia, BUSINESS & SOCIETY Ethics and Stakeholder Management
4. Jean-jacques Rosé Paris, Editions organisations , L'entreprise responsable
5. Amina ESSABER ,L'importance de la responsabilité sociale de l'entreprise pendant la crise Covid-19 : cas des PME marocaines non labellisées RSE Professeure en économie et gestion, Laboratoire de recherche en économie, gestion et sciences sociales, Faculté des sciences économiques, juridiques et sociales d'El-Jadida, Université Chouaib Doukkali,
6. Ayadi Abdelkader, Belguet Youcef , Empirical Study Of The Impact Of Corporate Social Responsibility The Financial Performance Of The Algerian Company

7. Adil Cherkaoui, PRATIQUES RSE DES PME AU MAROC: UNE ANALYSE PERCEPTUELLE AUPRÈS DES DIRIGEANTS CASABLANCAIS
8. BOUSQUET D. 2020, la RSE levier de performance durable pour l'après Covid-19, Revue Les Echos, vol.28, P.3
9. Lépineux, François, Rosé, Jean-Jacques, Bonanni, Carole La RSE - La responsabilité sociale des entreprises: Théories et pratiques Ed. 2 ? Editeur: Dunod ,Année de Publication: 2016
10. Helfrich, Vincent, Schäfer, Philippe ,Editeur La RSE en schémas , Ellipses ,Année de Publication: 2022
11. Note Stratégique a été réalisée dans le cadre d'une collaboration entre : - Le Haut-Commissariat au Plan (HCP) ; - Le Système des Nations Unies au Maroc (SNUD) ; - La Banque mondiale (BM)
12. Maroc-Loi-2000-53-charte-PME
13. NACIRI Rafia Faculté des Sciences de l'Education Laboratoire Homme, Espace, Société et Culture , Societal performance in the era of Covid 19, *Revue Française d'Economie et de Gestion* ISSN : 2728- 0128 Volume 2 : Numéro 1
14. NACIRI Rafia Faculté des Sciences de l'Education , What societal commitment in the era of the Covid-19 pandemic? *Revue Internationale du Chercheur*
15. José Allouche, Patrice Laroche. Responsabilité sociale et performance financière des entreprises : une synthèse de littérature. Colloque "Responsabilité sociale des entreprises : réalité, mythe ou mystification ? ", Mar 2005, Nancy, France.
16. José Allouche, Patrice Laroche ,Responsabilité sociale et performance financière des entreprises : une synthèse de la littérature
17. Jean-Michel Sahut, Medhi Mili, Frédéric Teulon ,GOUVERNANCE, RSE ET PERFORMANCE FINANCIÈRE : VERS UNE COMPRÉHENSION GLOBALE DE LEURS RELATIONS ?
18. Récapitulatif des scénarios de l'étude du HCP publiée le 16 Mai 2020 « Pandémie COVID-19 dans le contexte national : situation et scénarios
19. Lhassan Essajide , RSE: COVID-19, UN ACCÉLÉRATEUR VERS UNE ÉCONOMIE PLUS SOUTENABLE
20. KISSAMI Rabah , La crise du Covid-19, à cause des répercussions sur Les PME qui ont subies des difficultés d'approvisionnement, annulations d'événements, clientèle en baisse. ;Enseignant chercheur ;Ecole Nationale de Commerce et de Gestion d'Oujda ;Université Mohammed Premier d'Oujda (UMP)-Maroc Laboratoire d'Etudes et de Recherche en Management Avancé Maroc
21. Haut-commissariat au plan , L'Impact de la crise COVID-19 sur l'emploi et les TPME au MAROC , Organisation Internationale du travail
22. Haut-Commissariat au plan ( HCP) : Effets du Covid-19 sur l'activité des entreprises 4ème enquête, Février 2022 (Version Fr)
23. Haut-Commissariat au plan ( HCP) : Effets du Covid-19 sur l'activité des entreprises 3ème enquête -Janvier 2021- (Version Fr)
24. Haut-Commissariat au plan ( HCP) : Approche de l'impact de la pandémie et des effets de son mode de gestion sur la croissance
25. Haut-Commissariat au plan (HCP): principaux\_resultats\_impact\_covid\_19\_entreprises\_fr\_1
26. Outmane FARRAT, Zouhair HAJJI, Contribution to the analysis of the determinants of the disclosure of information on CSR on websites in Morocco: case of financial organizations listed on the Casablanca stock exchange ,
27. Fatima Zahra BOUTAFROUTI, Said MDARBI, The Impact of COVID-19 on Moroccan Small and Medium-Sized Companies
28. Imane LAAMRANI EL IDRISSEI.CSR and contribution to Financial Performance

29. Mme HAJAR MOUATASSIM EP. LAHMINI Y a-t-il un impact de la RSE sur la performance financière de l'entreprise : Etude empirique sur les sociétés marocaines cotées à la bourse de Casablanca Communication au 13<sup>ème</sup> congrès de l'ADERSE sous le thème: « La responsabilité sociale des organisations et des établissements d'enseignement supérieur » Juin 2016
30. The CSR of SMEs: the study of the Moroccan context
31. La responsabilité sociale des entreprises au Maroc : Vue par des chercheurs en sciences de gestion - ScholarVox Management
32. MAZOUZ Abdelhamid , RADI Bouchra, CSR measures in period of Covid-19 health crisis, between conjunctural practices and sustainable strategies: Case of SMEs and Large Enterprises in the Souss-Massa region ,
33. Imène BERGUIGA ,Les Facteurs Déterminants De La Performance Sociale et De La Performance Financière Des Institutions De Microfin...
34. Latifa HAMDANI De la performance financière à la performance globale : Quels outils de mesure ?
35. Rapport National 2021 : Les objectifs du développement durable au Maroc dans le contexte de la Covid-19
36. La RSE, du côté des PME François LABELLE, Kadia Georges AKA et Anne-Marie PICHETTE Laboratoire de recherche sur le développement durable en contexte de PME Université du Québec à Trois-Rivières

## NEW »MARKETING LANGUAGE« AND TOOLS AS A RESULT OF CHANGE DUE TO THE PANDEMIC

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### ABSTRACT

*The quality of marketing activities of non-profit organisations is a major factor in their success. The pandemic that started a couple of years ago significantly affected the way non-profit organisations operate, that is, it forced them to change. Marketing mix also had to change to stay relevant. This paper explores what kind of changes happened among Croatian non-profit organisations and how organisations have been transformed to remain relevant in the market. In addition, the authors map the new language of marketing, that is, which new words from the English language have entered everyday use and whether they have the same meaning for all stakeholders. The new educations and tools that organisations use are originally in English. During the pandemics, English language was mainly used for communicating all types of information on the global level, mostly in written, but also in oral form. Therefore, the knowledge of the English language was essential for everyday communication, and as a result, there are a number of English terms continued to be used in this specific field in the Croatian language. This paper provides suggestions for further research into the impact of the COVID 19 pandemic on the marketing activities of the Croatian non-profit sector.*

**Keywords:** *non-profit organisations marketing, organisational changes, pandemic, English language*

### 1. INTRODUCTION

The corona virus has made a lot of changes in the business operations of economic and non-profit organisations. Even before the corona virus, the civil sector was not resistant to external crises, which is indicated by the fact that local organisations (that is, organisations operating in local communities/active at the local level) are usually not professionalized, have irregular and/or very small income and insufficient capacities and shortage of information on financing options. This paper deals with the topic of adaptation of civil society to the crisis caused by the corona virus and how to adapt the organisation to the "new normal". Most research, when it comes to challenges in the work of associations, shows that financial sustainability is the biggest challenge, but the question is how organisations reacted to doing business in an online environment and implementing regular activities with active anti-pandemic measures. In the paper, a link was made to the way of communication and the literature that organisations used when adapting their activities, as well as to a completely new jargon that entered everyday use and is associated with the emergence of the pandemic. For the purposes of insight into the above-mentioned situation, a survey was conducted among non-profit organisations in the local



environment in the form of interviews, which tried to determine and explain the newly created situation and problems, but also the possible positive effects it caused.

## **2. NON-PROFIT ORGANISATIONS UNTIL PANDEMIC**

Non-profit organisations are a growing segment of a democratic society and are often referred to as the third sector. These are non-governmental organisations that place emphasis on public benefit and charitable activities. Their influence in policy-making is growing worldwide (Guay, Doh and Sinclair, 2004; Reimann, 2006; Werker and Ahmed, 2008), so the interest of different stakeholders in their work is growing. Stakeholders of non-profit organisations most often include their users, members, volunteers, employees, donors, but also the general public. The relationship of a non-profit organisation with individual interest groups is determined by the type of activity, mission and goals (Mihanović, Pavičić and Alfirević, 2014). There are currently more than 51,000 registered associations in the Republic of Croatia. Most of these associations have an annual income below HRK 500,000.00 or no income at all. Such a market situation has certainly aggravated the position of non-profit organisations in doing business during the COVID-19 pandemic. The Europe 2020 Strategy emphasized the need for a coordinated approach to solving problems and overcoming the crisis, in which all social partners, including civil society, should be involved. The existence of a legal, institutional and financial framework is crucial for the development of civil society, but despite this, the development and distribution of civil society organisations by regions is very uneven, as most organisations operate in major urban centres. According to the Ministry of Administration, most civil society organisations are related to the city of Zagreb and five counties (Split-Dalmatia, Primorje-Gorski Kotar, Osijek-Baranja, Zagreb, Istria) in which a total of more than 31,000 associations are registered. There is no doubt that the extremely large differences in the standard of living between Croatian regions are directly related to the level of development of civil society in these regions. Most research, when it comes to challenges in the work of associations, shows that financial sustainability is the biggest challenge. In addition, local organisations (i.e. organisations operating in local communities / active at local levels) are usually not professional, have irregular and / or very low revenues, as well as insufficient capacity and lack of information on funding opportunities. Also, such organisations have experience in managing small projects, mostly from national sources of funding, but they do not have experience in managing large projects, nor do they have experience in managing EU funds, which often require co-financing. Organisations active at the local level are very important actors in a democratic society, and often find the best solutions because they know and take into account local needs and interests, work on building trust, strengthening citizen participation, social networks and support, and building good community relations. In addition, civil society organisations are a significant link in crisis management. Civil society organisations are often a hotbed of ideas in solving local community problems, but they lack the knowledge, skills and tools needed to turn ideas into concrete actions. The activities of local civil society organisations are very important because "they have the potential to create and mobilize different types of social capital, reduce divisions in society and empower individuals." Accordingly, this paper deals with the topic of non-profit sector adjustment during the pandemic and sources of information for successful business adjustment. One of the most important adjustments took place in the area of language.

## **3. NEW WORDS FOR THE “NEW NORMAL”**

The new virus that appeared in December 2019 in China in a very short period of time spread to literally the whole world and caused a pandemic unprecedented since the Spanish flu, the greatest natural disaster of the twentieth century that began in the spring of 1918 and affected the whole world (Cvetnić Ž, Savić V. 2018).

The new coronavirus of the 21st century is called COVID19 and is derived from the two words COroNaVirus & Disease to which the number 19 has been added due to the year in which it appeared (<https://www.merriam-webster.com/words-at-play/coronavirus-words-guide>). Since the world of the 21st century is popularly called a “global village” in which modern technology knows no borders and allows instantaneous connection of opposite sides of the world, the new virus has spread among all the countries around the world, which are trying to fight the virus in all possible ways. There is no sphere of life that has not been affected by the coronavirus, so rapid changes within the language were inevitable. As the fight against the virus intensifies, a new corona metalanguage / jargon is being developed in parallel. Thus, in everyday speech, both in the private and business context, during the corona virus pandemic, dozens of words and phrases that are directly related to the pandemic have appeared. The use of this metalanguage is becoming our everyday life, so we have started using terms like lockdown, new normal, zooming, remote work, online events, WFH (work from home), self-isolation, virus, pandemic on a daily basis. In addition to the above, there are also many terms from the medical, in fact epidemiological profession that have penetrated into everyday speech and become part of the general vocabulary: epidemiology, disinfection, comorbidity, clinical picture, asymptomatic patients, local virus transmission, infectology and many others (<https://jezik.hr/koronavirus>). Therefore, the mentioned terms and metalanguage are used in everyday work and daily communication in the work of associations among which the research for the purpose of this paper was conducted. The original “corona language” is English, so most terms are used in the original English version. The situation with the language is always very complex, so some terms are adapted to the Croatian language, and some are translated. As an example that translations often did not prove to be good either, we can mention the term “social distance”, for which the substitution “fizički razmak” or “fizička udaljenost” has been proposed because “social distance” is literally a copy of the English language model, and “social” actually means “društveni” (English “social” and Croatian “socijalni” are false friends) (<https://korona.net.hr/analize-i-intervjui/koliko-je-pandemija-promijenila-jezik-to-whom-we-speak/>). The survey that was conducted gave interesting results, which are presented in the following part of this paper.

#### 4. SURVEY ANALYSIS AND RESULTS

For the purpose of the analysis, non-profit organisations of different activities and sizes from the area of Međimurje County were selected. Using the method of qualitative interviews, 8 non-profit organisations were processed, namely:

- 1) HUMANA NOVA, Čakovec, social cooperative for work integration, remanufacture and reuse, 45 employees, responsible person Ivan Božić, director
- 2) MURID, Čakovec, Centre for early intervention in childhood, 23 employees, responsible person Marina Gran, director
- 3) SOCIAL CENTRE ČAKOVEC, 3 employees, responsible person Filip Živaljić, director
- 4) MEĐIMURE ASSOCIATION OF SPORTS RECREATION "SPORT FOR ALL" Čakovec - sports and recreation activities, no employed persons, responsible person Marijan Vugrinčić, secretary
- 5) SPORTS RECREATION ASSOCIATION "SPORT FOR ALL" Mala Subotica, sports and recreation activities, no employees, responsible person Ljiljana Šipuš, president
- 6) SOCIETY OF SPORTS RECREATION "ČAKI" ČAKOVEC, sports and recreation activities, no employees, responsible person, Nenad Ujlaki, secretary
- 7) TOURIST BOARD OF THE MEĐIMURJE COUNTY, Čakovec, 3 employees, responsible person Rudi Grula, director

The survey contained 6 questions, the same for all respondents:

- 1) Has COVID affected the activities carried out by your organisation? If so, how long did it take to adapt and what was the process like?
- 2) Did you have a marketing or communication plan before the start of the COVID pandemic? If so, which channels were primary? If so, have things changed since the beginning of the pandemic?
- 3) Have you noticed the use of some new expressions in daily communication? "new normal"; "lockdown", "zooming", "remote work", "online events", WFH (work from home), social distance, 'Doomscrolling'
- 4) List more new expressions from the English language (or another foreign language) that you noticed and started and continued to use in everyday communication?
- 5) During the period of the COVID pandemic, did you use websites, applications or literature in English more often?
- 6) Will you continue even after the pandemic with the newly introduced practices and which ones?

In the following analysis it is determined what is common or different to the non-profit organisations surveyed and attached to this paper there are complete interviews obtained from each surveyed organisation. In response to the 1st question, it was established that the COVID situation had an impact on all surveyed organisations, especially those which, due to the COVID measures, cancelled the previously organized events, due to epidemiological restrictions, especially the organisations whose main activities are connected with sport, tourism or culture. Everyone needed a certain time and way of adaptation. Organisations differ in the time and method of adaptation, which is evident from the attached survey. As for the 2nd question, it is common for all respondents that they intensively started using social networks, online media, and especially online video conferences, meetings, workshops and the like. All of the interviewees confirmed the use of the terms such as "new normal" "lockdown", "zooming", "remote work", "online events", WFH (work from home), social distance. Some of them are used in original form, of which the most obvious examples are "lockdown", "zooming", "online events", whereas some of them already have their translated form. Most of them were used very often or almost daily and have continued to be used in everyday communication. The term "doomscrolling" is the word which was not used very often. Among some new expressions from the English language that were used at the time of COVID, the following are listed: koronaparty, home office, koronafree, COVID-idiot, disinfectant, isolation. All respondents answered that during the corona period, they used web content, English literature and online applications more often. In response to the question of whether they would continue with the newly introduced practices after the pandemic, all of them agreed that they would continue to use video meetings, online lectures or conferences, as well as work from home, occasionally and when required, and keep the existing online applications that facilitate their work.

## 5. CONCLUSION

The impact of the COVID crisis on the business of the non-profit sector was confirmed by the analysis of the survey results. This work confirmed that among civil society organisations of the Međimurje County (of different fields of activities) there are changes in the organisation of work and the implementation of regular activities, especially among those who, due to the COVID measures, have cancelled the gathering of larger groups of people, and as a result of that, cancelled the previously organized events, which made it difficult especially for those non-profit organisations that mostly deal with sports, tourism or culture. Therefore, everyone needed some time to adjust.

Although the organisations differ in the time and method of adaptation, what all respondents have in common is that they have started using social networks, online media, and especially online video meetings and in such a way introduced new modern digital methods into their regular business. All respondents confirmed that almost all new English expressions or most of them were used very often, on a daily basis, and continued to be used in everyday communication. It was confirmed that organisations will continue with the newly introduced practices, all agreed to continue using video meetings, online lectures or conferences, as well as working from home, and keep existing online applications that will facilitate their work in the future.

**LITERATURE:**

1. Mihanović, Z., Pavičić, J., Alfirević, N. (2014). Analysis of Organisational Performance of Non-profit Institutions: The Case of Lifelong Learning Institutions in Croatia. *Economic Review – Journal of Economics and Business*, 12(1), 3-13.
2. Guay, T., Doh, J.P. and Sinclair, G. (2004). Non-governmental Organizations Shareholder Activism and Socially Responsible Investments: Ethical, Strategic, and Governance Implications. *Journal of Business Ethics*, 52, 125-139.
3. Cvetnić Ž, Savić V. (2018) Prije 100 godina španjolska gripa „majka“ svih pandemija poharala je svijet, *veterinarska stanica* vol 49, No 5
4. A Guide to Coronavirus-Related Words, <https://www.merriam-webster.com/words-at-play/coronavirus-words-guide>, accessed 1 July 2022
5. Filipović M. (2020) Koliko je pandemija promijenila jezik kojim govorimo <https://jezik.hr/koronavirus>, accessed 1 July 2022

## APPENDIX

### SURVEY:

*1. Has COVID affected the activities carried out by your organization? If so, how long did it take to adapt and what was the process like?*

- HUMANA NOVA Čakovec - Humana Nova is an eco-social enterprise that employs people with disabilities and other marginalized groups, which results in reduced work efficiency and a fairly high number of sick days. Motor impaired workers usually have therapy scheduled once a year. As this was abolished during COVID and the lock down, the number of sick days decreased for a short period, but later female workers gradually remained on sick leave due to COVID. However, we can say that some good things happened during that time, because during the lock down we managed to adapt the space, which serves us very well today. We arranged our sewing room, sorting room and offices. We adapted the workplace for people with disabilities, e.g. the toilet area for the wheelchair access. When we started production at the beginning of June 2020, COVID did not have too much impact on business processes. A more serious wave hit us in April 2021, but we still managed to adapt our jobs and fight the pandemic solidly. During the COVID period, we had strict epidemiological measures (taking temperature, wearing masks, regular disinfection of rooms and objects, etc.) and were fortunate that most of our workers had their own space to work and ensured physical distance. In order to increase the measures even more, we ensured that workers use the regular daily break at different times. There were weekly meetings on how to adhere to epidemiological measures. Considering that most of the workers belong to a more vulnerable group, and there are also people with intellectual disabilities, it was necessary to call for responsible behavior every day, because some did not understand the seriousness of the situation and what consequences it could have on the business. In terms of external processes, communication, procurement, distribution or sales, we fortunately had no difficulties. Aware of the situation, we focused on increased use of online tools and communication channels.
- MURID Čakovec - Yes. The initial adaptation took 2 weeks to start implementing activities virtually, however the process took much longer.
- SOCIAL CENTRE ČAKOVEC - Yes, it took us a month to adapt the activities of the EU project to the online environment. It helped that we are a small team, and we had secured stable funding through an EU project.
- MEĐIMURJE ASSOCIATION OF SPORTS RECREATION "SPORT FOR ALL" Čakovec - In 2020, COVID completely stopped all mass sports and recreational activities. The members of the Association organized organized physical exercise and other physical activities (hiking, cycling, running, sports and recreational games) within their families and individually. Given that the Association has a coordinating and organizational function for its members, it did not take long for regular forms of physical activity to be implemented.
- SPORTS RECREATION ASSOCIATION "SPORT FOR ALL" Mala Subotica - Yes, it had the effect, it reduced activities. As soon as the measures were relaxed, we started with the activities. Everyone was looking forward to it and got involved immediately in all the activities offered.
- SOCIETY OF SPORTS RECREATION "ČAKI", ČAKOVEC- Yes, the epidemic affected the Association's activities, especially in the beginning when all outdoor and indoor activities, as well as socializing in general, were prohibited. The adjustment phase mostly depended on the measures prescribed by the Civil Protection Headquarters of the Republic of Croatia, but in the phase of lockdown we drew up project applications, submitted them and carried out project activities in shortened time, being aware that any further spread of

the COVID infection would result in the interruption of the project activity. The project activities were divided into several separate parts, and the participants were divided into smaller groups in order to prevent the possible spread of infection in case it appeared among the participants of the project activities.

- TOURIST BOARD OF THE MEĐIMURJE COUNTY, Čakovec - COVID significantly affected the activities of the Tourist Board. Adaptation to new circumstances took 30 days. Remote work was introduced, and business meetings were postponed until the Zoom platform was established.

*2. Did you have a marketing or communication plan before the start of the COVID pandemic? If so, which channels were primary? If so, have things changed since the beginning of the pandemic?*

- HUMANA NOVA, Čakovec - Before the start of the pandemic, the most important channels of communication for us were emails, phone conversations, face to face conversations, traditional and online media, Internet pages and Humana Nova's Facebook profile. Since we hired new workers in management, including a worker in marketing, we developed a concrete marketing plan during the COVID pandemic. Previously, we invested less in that part of the business, used emails and direct communication, and external services were used more often for promotion. After hiring a marketing professional, we made a promotion plan through social networks, online media, renewed our website, logo and web shop. We opened a profile on LinkedIn, Instagram, Google Business, TikTok, and we also have our own YouTube channel where we created our own video content. We strengthened direct communication with customers through email, organized several online meetings using Zoom, Microsoft Teams, etc. During the pandemic, we allowed some workers who do not work in production to work from home. Given our unique business model, we are interested in various national and international, independent media houses that deal with the topics of socially responsible business, circular economy, employment of people with disabilities, waste management and environmental protection. We open our doors to various organizations, which write about us and promote our work, and we have also recorded two documentaries that will soon be released to the media.
- MURID, Čakovec - In a way, I wouldn't really call it a plan. Social networks, blog and website. The part of the content that we communicated, changed. The communication continues through the same channels as before.
- SOCIAL CENTRE ČAKOVEC - We had a communication plan. The primary channels of communication were social networks and personal contacts. During the pandemic, we put more focus on communication through social networks and tested new social networks like Tik-tok.
- MEĐIMURJE ASSOCIATION OF SPORTS RECREATION "SPORT FOR ALL" Čakovec - Every year, the Association adopts a work plan. It is designed in two parts: regular forms of physical activity and occasional forms. Regular forms took place individually at home and in nature (individually and in groups), and the occasional ones (tournaments, festivals, etc.) were not held.
- SPORTS RECREATION ASSOCIATION "SPORT FOR ALL" Mala Subotica - Yes. Facebook, local newspaper. The only thing is that there was less activity indoors. Outdoor activities were carried out according to the prescribed measures.
- SOCIETY OF SPORTS RECREATION "ČAKI" , ČAKOVEC- Considering the current trends in Croatia and in the world, marketing and communication depend to a large extent on social networks. With the pandemic, communication and marketing did not change too much, because we continued to communicate through social networks and communication applications (Facebook Messenger, Vibr, WhatsApp, etc.), what's more, social networks

and applications became the easiest way of communication. You could post a notification about a new activity or about the postponement of an activity at any time, and it was the quickest way for informing all participants about the organization and/or all the changes that needed to be implemented.

- TOURIST BOARD OF THE MEĐIMURJE COUNTY, Čakovec – Tourist Board conducts its marketing activities in accordance with the Strategic Marketing Plan for tourism in Međimurje. Digital channels: website and social networks. Advertising activities on national televisions were additionally strengthened.

3. *Have you noticed the use of some new expressions in daily communication? "new normal"; "lockdown", "zooming", "remote work", "online events", WFH (work from home), social distance, 'Doomscrolling'*

- HUMANA NOVA, Čakovec - We all had to get used to the "new normal", the "lockdown" was for workers the fear of losing their jobs, given that we are engaged in production. We were forced to "zoom" if we wanted to conclude new business collaborations, but the transition to online communication and the use of online tools was a challenge for some, because they were used to direct communication. But on the other hand, the focus on the use of online tools and communication channels enabled us to connect with organizations and clients that are not from our area, it accelerated and facilitated some sales processes, because by "eliminating" live meetings and being aware that everything takes place via telephone or e-mail easily and quickly, most jobs were arranged. Social distance is a concept that has got under the skin of all of us, both in the private and business world, which has had a negative impact on interpersonal relationships and the number of social contacts. Doomscrolling is a term that is not really used in our environment, which does not mean that this habit does not exist. Monitoring the news about the COVID pandemic and the number of new infections in the world and in the local environment definitely had a negative impact on society as a whole. But this raises the question for which purposes bad news is used and how it affects the individual. If they represent a burden, cause fear and a depressed state, then that is not good, but if we can use them to prepare for the future, including the future of business (situation on the market, prices of products and services, procurement of materials, availability of resources), it might be an advantage. By all means, we need to be aware in order to avoid potential difficulties and better prepare for the future.
- MURID, Čakovec - yes, all terms are known and we used some significantly, Zoom was a way of communication with colleagues, but also with users.
- SOCIAL CENTRE ČAKOVEC - Yes: new normal, lockdown, remote work
- MEĐIMURJE ASSOCIATION OF SPORTS RECREATION "SPORT FOR ALL" Čakovec - We noticed the use of new expressions in daily communication. As part of the epidemiological measures, we followed all the instructions, so the new expressions were accepted without any problem.
- SPORTS RECREATION ASSOCIATION "SPORT FOR ALL" Mala Subotica - Almost all of the above.
- SOCIETY OF SPORTS RECREATION "ČAKI", ČAKOVEC- Yes, a lot of foreign words or derivatives of new words entered everyday communication.
- TOURIST BOARD OF THE MEĐIMURJE COUNTY, Čakovec - Yes, most of the above expressions were used in daily communication.

4. *List more new expressions from the English language (or another foreign language) that you noticed and started and continued to use in everyday communication?*

- HUMANA NOVA, Čakovec - With the COVID pandemic, a lot of new expressions were created or we borrowed them from the English language. Considering that there are divided opinions about the danger of the virus, quite a few new jokes and funny expressions about the coronavirus have been created. One of the expressions known to everyone is "coronaparty", sometimes used in a positive and sometimes in a negative context. But when people joke even in this situation, it is an expression of the strength and invincibility of the human spirit. The COVID pandemic certainly had a negative impact on society, but it certainly also created something good, and we need to be wise and recognize that "good", think ahead and use it to our benefit, to the benefit of society.
- MURID, Čakovec - Home office, bed zooming, online gym
- SOCIAL CENTRE ČAKOVEC - Home office,
- MEĐIMURJE ASSOCIATION OF SPORTS RECREATION "SPORT FOR ALL" Čakovec - No new expressions from the English language or any other language were used.
- SPORTS RECREATION ASSOCIATION "SPORT FOR ALL" Mala Subotica
- SOCIETY OF SPORTS RECREATION "ČAKI" , ČAKOVEC- coronafree, coronaparty, shutdown, covid-idiot, corona rules, isolation, disinfection, decontamination, etc...
- TOURIST BOARD OF THE MEĐIMURJE COUNTY, Čakovec - We did not notice additional expressions.

5. *During the period of the COVID pandemic, did you use websites, applications or literature in English more often?*

- HUMANA NOVA, Čakovec - This was inevitable during the pandemic, because almost everything took place online. Personally, I used websites and literature in English before, but during the pandemic it definitely increased. Anyway, I don't look at it in a negative way. It is important to select information and know what you are looking for and what can be useful for you. Some new channels of communication were opened, some new acquaintances were made, which resulted in good things, positive experiences, created new collaborations and opened new doors.
- MURID, Čakovec - YES AND NO; as an organization, we use most of the professional literature in English
- SOCIAL CENTRE ČAKOVEC - Yes, we mostly followed news from our creative industry in foreign media.
- MEĐIMURJE ASSOCIATION OF SPORTS RECREATION "SPORT FOR ALL" Čakovec - During the COVID pandemic, Internet sites and various applications were used more often. We did not follow the literature in English.
- SPORTS RECREATION ASSOCIATION "SPORT FOR ALL" Mala Subotica – Applications and web pages
- SOCIETY OF SPORTS RECREATION "ČAKI", ČAKOVEC- Yes, a lot of specialized internet magazines, whose editors and publishers are from various countries of the world use English for communication, of course in addition to their native languages (German, Swedish, Danish, Japanese, etc.). Given that the activities of our association largely nurture outdoor activities, and in Croatia there is almost no specialized literature that deals with such topics, the vast majority of literature is in English and is easiest to find on the Internet.
- TOURIST BOARD OF THE MEĐIMURJE COUNTY, Čakovec - Platforms like Zoom or Google Teams were used more often.



6. *Will you continue even after the pandemic with the newly introduced practices and which ones?*

- HUMANA NOVA, Čakovec - Epidemiological measures have eased and we are all happy about that, but online communication and contacts have remained. Likewise, the practices introduced during the COVID pandemic are also present. Sometimes it is easier to solve some issues online, because it saves a lot of resources, and yet we have open opportunities for personal contact, to introduce ourselves personally and to create a better relationship with clients, which positively affects the mental health of all of us within the organization, as well as society in general.
- MURID, Čakovec - Yes, of course, occasional work from home, urgent online meetings, part of the therapy appointments to be conducted online
- SOCIAL CENTRE ČAKOVEC - Yes, communication via online platforms and working from home when possible.
- MEĐIMURJE ASSOCIATION OF SPORTS RECREATION "SPORT FOR ALL" Čakovec – During this year, 2022, when Međimurje is declared a European region of sports, all planned activities are being carried out - round table on the topic "Sport and sports recreation of Roma people", exhibition of photos, artistic and literary works of the Roma about sport and sports recreation, organization of sports-recreational games, professional excursion (Let's get to know outdoor and indoor sports-recreational facilities in Međimurje), etc. In order to involve as many citizens as possible in regular and occasional forms of physical activity, this year the Association organized professional training for managers of sports-recreational activities that will implement newly introduced sports and recreational activities in their communities, as well as design new ones. This is how activities were launched in Draškovec, Donji Vidovec, Ivanovec.
- SPORTS RECREATION ASSOCIATION "SPORT FOR ALL" Mala Subotica - Yes. Use of online lectures, exercises, education.
- SOCIETY OF SPORTS RECREATION "ČAKI" , ČAKOVEC- We are also planning to use literature in English and the promotion of the Association's activities through social networks, communication through social networks and communication applications. The implementation of the projects and all the association's activities will be adapted to the pandemic situation, if necessary, and even the planning and implementation in smaller groups gave better results because more experts dedicate themselves to working with a smaller group of people and better transfer knowledge to the participants.
- TOURIST BOARD OF THE MEĐIMURJE COUNTY, Čakovec - We continued to use video conferencing apps like Zoom and Google Teams.

# COVID-19, POLICE STOPS MEASURES AND VACCINATION, THE IMPERATIVE OF PROPORTIONALITY BETWEEN HUMAN RIGHTS

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## ABSTRACT

*The present study aims to analyze the police stops measures adopted by European Union countries to contain the COVID 19 pandemic. The study is developed from the analysis of the police stops law, especially the strengthening of police power to act in case of non-compliance with the rules of confinement imposed. A brief historical account is made about other similar situations experienced in the past. We focus the analysis on the police stop measures, to examine their adequacy to the constitutional principles on individual rights, freedoms, and guarantees. This study aims to analyze the proportionality of the measures adopted, in particular those that required quarantine dwellers, home confinement and vaccination. The methodology adopted is based on a theoretical framework that included the study of legislation, administrative decisions, reports and opinions of various authorities. Finally, we are looking at some decisions of the European Court of Human Rights. The conclusions show the results on the degree of acceptance by people in general regarding the restrictions adopted and the critical reflection on the adequacy of the measures in the face of the Portuguese Constitution and the Declaration of Human Rights, from the point of view of the principle of proportionality.*

**Keywords:** COVID 19, European Union case study, Human rights, Police stop measures, Proportionality

## 1. INTRODUCTION

The COVID 19 pandemic took states by surprise on a global scale. In an attempt to stop the rapid advance of the pandemic, the loss of life that the first wave generated, and the rationalization of the means of treating the disease, states enacted several measures severely restricting individual rights and freedoms. Important police measures were adopted with restrictions that paralyzed sectors such as aviation, travel, restaurants, hotels, theaters, cinemas, and artistic and sporting events, among others. Successive quarantines were decreed to stop the pandemic, and all government efforts were focused on health. Despite some differences, we can say that the diversity of health measures adopted in the EU assumed a common pattern, and were accompanied by police measures to ensure compliance with the restrictions. The problem, however, takes on an enormous complexity, if we think that these measures effectively triggered an economic earthquake that affected millions of people around the world, who lost their jobs, their businesses, became isolated from their families and friends, deprived of access to essential goods and services. This situation has highlighted a manifest conflict between fundamental rights. On the one hand, individual rights, a whole set of individual freedoms limited by measures to combat the pandemic. On the other side, individual but also collective rights, such as the right to health, to education and higher education, to work, among others.

In this confrontation, given the urgency of fighting the Covid 19 pandemic, individual liberties were sacrificed. The principle of proportionality has a special prominence in the search for a balance necessary for social peace. The dichotomy between first and second generation human rights has once again become a present theme in the public discussion of government decisions. The study is developed from the analysis of the police stops law, especially the strengthening of police power to act in case of non-compliance with the rules of confinement imposed. A brief historical account is made about other similar situations experienced in the past. We focus the analysis on the police stop measures, to examine their adequacy to the constitutional principles on individual rights, freedoms, and guarantees. This study aims to analyze the proportionality of the measures adopted, in particular those that required quarantine dwellers, home confinement and vaccination.

## **2. CONCEPTUAL TOOLS**

In a context of economic globalization, we were faced with levels of wealth never before reached, but, at the same time, with levels of inequality and poverty incompatible with the postulates of the Social Rule of Law, inspired by the imperative of guaranteeing a dignified life condition for all human beings, no exception. Since the end of the 1970s, following the important contribution of Karel Vasak, much has been written about second generation fundamental rights. Despite the numerous contributions of the doctrine and jurisprudence of the European Court of Human Rights to the defense and appreciation of this important range of fundamental rights, the effective realization of these rights is still far from desirable. In this context, the COVID 19 pandemic confronted humanity with an unprecedented challenge and highlighted the importance of these second-generation human rights, which includes the right to health. This paper presents a historical and doctrinal analysis on the evolution of human rights theory, with emphasis on second generation human rights and the importance of proportionality as a basis for decision. The emergence of second generation rights in the context of the COVID 19 pandemic serves as a starting point for the approach developed here, based on the premise of their essentiality for the realization of first generation human rights. The COVID 19 pandemic has highlighted the failures of the international legal system in the defense of human rights and, as such, constitutes a unique and exceptional challenge to the advancement of the effective realization of these rights on a global scale. Above all, it has demonstrated that the ideological question, which has dominated the approach to human rights and the hierarchy between first and second generation rights, has lost some of its meaning. A rational and factual approach to the results of the pandemic and the solutions adopted clearly reveals that it is not acceptable to deny citizens access to the so-called second generation human rights. In other words, this is not an ideological question, but a question of humanity, of survival and subsistence of democracy. The principle of proportionality gained strength with the emergence of second generation human rights, as an essential condition for the preservation of humanity and a precondition for the effective realization of fundamental freedoms and guarantees. The first condition for enjoying the rights, liberties and guarantees called first generation human rights is to guarantee everyone access to health, education, housing and work, that is, to a dignified existence. This is an opportunity to rethink the hierarchy of human rights, to revalue the importance of second generation human rights, essential for the preservation of first generation rights and also for the preservation of democracy as the predominant system on a global scale. But this vision is not peaceful, as we will see in the literature review presented in this study, which aims to contribute to the reflection on the subject and with some conclusions on the main challenges facing the European Union (EU) in the recently announced reconstruction and resilience plan, focused on economic and social cohesion essential to the sustainability of the European project.

### 3. THE STATE OF ART

Human Rights can be loosely defined as the rights that a person possesses simply because he or she is human.<sup>1</sup> These rights are based on equality, for all people have the same fundamental rights, and no one may or should be favored over another.<sup>2</sup> They are inalienable rights in the sense that a person will never cease to be a human being, regardless of his conduct, and for that very reason he can never lose his fundamental rights.<sup>3</sup> Finally, they are universal rights, since human rights are transversal to all those who descend from the human species, notwithstanding variants such as race, nationality, ethnicity, gender, among others.<sup>4</sup> Equal, inalienable and universal, these are the claims of human rights theory. According to Jack Donnelly, human rights proclaim an ideal for humanity, a universal stage we should aspire to reach.<sup>5</sup> Amartya Sen, supports this thesis by stating that human rights are "*strong ethical proclamations that point to what should be done.*"<sup>6</sup> These proclamations demand certain imperatives, certain universal values, which are always associated with the human freedom that depend on them and induce us to act accordingly. Thus, Amartya Sen invites us to interpret human rights through the following question: Are happiness, freedom, and autonomy important and essential to human life? If the answer is yes, then fundamental rights are an essential ethical claim that, while arguably necessary, must be openly analyzed "in the light of the scrutiny of public argumentation involving this an open-ended kind of impartiality."<sup>7</sup> Jack Donnelly asserts that the practice of universal human rights is essentially a late 20th century Western creation. Although the American and French revolutions of the 18th century focused on the inalienable rights of the human race from the outset, the truth is that these claims addressed a minimal percentage of the population (they excluded, for example, women and people of races other than white) and therefore did not embrace the universality of human rights.<sup>8</sup> The same happened, although in a very different way, with the Universal Declaration of Human Rights of 1948, which ignored colonialism, a practice that exploited the human rights and resources of African, Asian, and Amerindian peoples.<sup>9</sup> In fact, it was only after World War II, with the occurrence of events such as India's independence, Ghana's independence and the Declaration on the Granting of Independence to Colonial Countries and Peoples, that the Western world has started to extend the application of human rights to all human beings, regardless of race, gender, religion, nationality, ideology, and other factors.<sup>10</sup> Similarly, in the 1920s and 1930s, the importance of economic and social rights gained some prominence in several states, which raised some controversy. In fact, it was in the 1970's that there was a relocation of the problem. The attempt to include in the category of human rights of those who *are called "economic and social rights" or "welfare rights"*. These rights were then designated in the 1970's by Karel Vašák as "*second generation rights*", which raised a heated debate that this article, almost fifty years later, intends to reactivate.<sup>11</sup> In November 1977, Karel Vašák, UNESCO's legal adviser, wrote an *article for UNESCO Courier* that introduced the concept of three generations of human rights, entitled "*Human Rights: A Thirty-Year Struggle: the Sustained Efforts to give force of law to the Universal Declaration of Human Rights.*"

<sup>1</sup> JACK DONNELLY. *Universal Human Rights in theory and practice* (3<sup>rd</sup> ed). Ithaca and London: Cornell University, 2013, pág.7.

<sup>2</sup> Ibid., 10.

<sup>3</sup> Ibid.

<sup>4</sup> Ibid.

<sup>5</sup> Ibid., 15.

<sup>6</sup> AMARTYA SEN. *A Ideia de Justiça*. Coimbra: Almedina, 2009, pág. 472.

<sup>7</sup> Ibid., 482.

<sup>8</sup> JACK. DONNELLY. *Universal Human Rights in theory and practice* (3<sup>rd</sup> ed). Ithaca and London: Cornell University, 2013, pág. 89.

<sup>9</sup> Ibid., 75.

<sup>10</sup> Ibid., 90.

<sup>11</sup> KAREL. VASAK. Human Rights: A Thirty-Year Struggle: the Sustained Efforts to give Force of law to the Universal Declaration of Human Rights. *UNESCO Courier*, 11 – 1977, pag. 29–32.

In this article Vašák pointed that the Universal Declaration of Human Rights respected two categories of fundamental rights and that a third was then emerging.<sup>12</sup> The first category or generation is political and civil rights that concern negative rights, those that do not require any activity by the State. This category includes the right to life, freedom of expression, religion, fair trial, equality before the law, among other civil and political rights<sup>13,14</sup> The second generation of rights are economic and social rights, the product of the industrialization process of the 19th century that caused unprecedented economic and social problems, and which call for positive action by the State to be implemented.<sup>15</sup> Examples of second-generation rights are the right to health, the right to housing, the right to work, the right to education, the right to protection against unemployment and poverty, the right to association in trade unions and a fair wage, among others. Examples of second-generation rights are the right to health, the right to housing, the right to work, the right to education, the right to protection against unemployment and poverty, the right to association in trade unions and a fair wage, among others.<sup>16</sup> Vašák also mentioned a third generation of rights, the "*rights of solidarity*", which require both the collective action of individuals and states and other political and economic entities.<sup>17</sup> As an example of this third generation we can point out the right to social security and protection. The first two generations of human rights were therefore included in the Universal Declaration of Human Rights in 1948, with Western Europe prioritising first-generation ones, and eastern Europe, of a socialist nature, prioritised the second generation.<sup>18</sup> From this time it results from the ideologization around the discussion of this theme. Scandinavian countries will be the ones that will best achieve, in a pragmatic and rational way, the realisation of both, without attachment to ideological discussion, but as a vital condition for the implementation of a model of society in which fundamental rights and freedoms are guaranteed by a fair social and economic system oriented towards equal opportunities and the social accountability of the individual and the collectivity. According to Amartya Sen, second-generation human rights have increasingly become a significant influence on the institutional reforms of the State.<sup>19</sup> However, this inclusion of economic and social rights has led to controversy on the part of experts in the field of political science, such as Maurice Cranston and Onora O'Neill who point, respectively, to the "*criticism of viability*" and the "*critique of institutionalisation*". The latter part of the principle that rights have to correspond exactly to "*correlative and strictly formulated duties*", which only happens after the institutionalization of these rights.<sup>20</sup> O'Neill clearly distinguishes the nature of something *that* can be institutionalised and from something *that has to be* institutionalised, because only then can one consider a right.<sup>21</sup> The "*critique of viability*", starring MAURICE CRANSTON, in turn, corresponds to the question whether the realization and institutionalization of certain economic, social and cultural rights in relation to all people, that is, universally, is feasible. Cranston states that the ease in the institution of civil and political rights (negative rights) does not match the guarantee of economic and social rights (positive rights) and, for this reason, to consider these latter human rights egalitarian, inalienable and universal, would be "*an unfeasible and impractical idea.*"<sup>22</sup>

<sup>12</sup> Ibid.

<sup>13</sup> SPASIMIR DOMARADZKI; MARGARYTA KHVOSTOVA; DAVID PUPOVAC. Karel Vasak's Generations of Rights and the Contemporary Human Rights Discourse. *Springer Nature B.V.*, 20 (4), 2019, p. 424.

<sup>14</sup> Ibid., 425.

<sup>15</sup> Ibid.

<sup>16</sup> AMARTYA SEN. *A Ideia de Justiça*. Coimbra: Almedina, 2009, pág. 500.

<sup>17</sup> KAREL VAŠÁK. Human Rights: A Thirty-Year Struggle: the Sustained Efforts to give Force of law to the Universal Declaration of Human Rights. *UNESCO Courier*, 1977, págs.11:29–32.

<sup>18</sup> SPASIMIR DOMARADZKI; MARGARYTA KHVOSTOVA; DAVID PUPOVAC. Karel Vasak's Generations of Rights and the Contemporary Human Rights Discourse. *Springer Nature B.V.*, 20 (4), 2019. Pág. 425.

<sup>19</sup> AMARTYA SEN. *A Ideia de Justiça*. Coimbra: Almedina, 2009, pág. 500.

<sup>20</sup> Ibid., 502.

<sup>21</sup> Ibid., 502.

<sup>22</sup> Ibid., 504.

In this line of thought JOHN RAWLS put, among others, the problem of justice between generations, beginning by stating that this is a difficult question, that "constitutes <sup>23</sup>*for an ethical theory a difficult test, if not impossible*". The author's masterpiece, "A Theory of Justice", published in the 70s of the twentieth century, constitutes a fundamental milestone in the evolution of philosophical-political thought and one of the greatest influences on the legal thought of its time, which lasts today. RAWLS openly raises the question of whether the social system as a whole, that is, "a *competition-based economy surrounded by a set of de instituições framework, can meet the principles of justice.*" The author then states, in a simple and informed way that "the answer must depend, at least in part, on the level at which the social minimum should be fixed. But this, in turn, is linked to the question of the extent to which the current generation is bound to respect the demands of the next generations."<sup>24</sup> Now, this question posed by the author in the early 1970's remains absolutely current and has been widely discussed in the context of fighting the pandemic that has imposed harsh restrictions on fundamental rights centered on individual liberties. The inter-generational problem, which involves knowing to what extent one generation has the right to condition the next generation, insofar as today's debt to guarantee economic and social rights represents a responsibility for the future generation, which will suffer a drop in well-being, which will not only pay the accumulated debt, but will also lose in taxes more than the utility provided by the guarantee of economic and social rights. This issue raised by RAWLS concerning the social minimum takes on a new dimension in the context of a pandemic when it comes to defining the minimum acceptable restrictions on the youngest and most productive generation in order to protect the lives of the oldest and most vulnerable to disease. Once again, the idea of inter-generational conflict has taken hold, with popular demonstrations, sometimes aggressive in some countries of the EU and the rest of the world. The working class, especially the younger ones, desperate with unemployment, the many «Covid 19 breack down's», closure of businesses and economic activities, with the lack of income to survive during long months of confinement determined by the pandemic, begins to question the restrictive measures. The tendency to consider that active, younger workers are being disadvantaged to protect the elderly has gained some ground in the public discussion about health measures to combat the pandemic and "police stop" orders to ensure that they are carried out. In a brief look at some remarkable scientific works published in the last two decades, we realize that the central question of the "social minimum" or the demandable in a democratic and social state under the rule of law remains at the center of reflection, which is necessarily reflected in the greater or lesser relevance given to economic and social rights. Thus, at the height of the 2008 crisis and during the years that followed, "as the world went through one of the most violent collapses of economic life in the last hundred years", in the words of SKIDELSKY, the discussion about the role of the state in the economy and society returned in force, and the question of the social minimum was back on the agenda. Something went wrong and led the world into an unexpected, unprecedented crisis, or at least one that the world thought was not possible. It was widely believed that a "Great Depression would never happen again". Well, not only did it happen again, but it clearly shook the foundations of the Democratic and Social Rule of Law, the reference model in the European Union (EU). It is this financial, economic, social, and political earthquake that is going to awaken some authors to revisit the issue of the "social minimum" and the guarantee of economic and social rights. For STIGLITZ<sup>25</sup> the price to be paid for inequality is too high and may result in the destruction of the foundations of Western democracy, "it is destroying the rule of law (...) But another world is possible. We can achieve a society more in line with our fundamental values, with more opportunities and

<sup>23</sup> JOHN RAWLS. A Theory of Justice. Fundamentals - Editorial Presença, 2nd ed., 2001, p. 227-228

<sup>24</sup> Ibid, 228.

<sup>25</sup> JOSEPH STIGLITZ. O Preço da Desigualdade. 1<sup>a</sup>. ed. Bertrand Editora, 2013, pág. 268 e ss.

more fairness."<sup>26</sup> STIGLITZ's analysis values the urgency of a more just society with less inequality that refocuses the role of economic and social rights. Refocus second generation human rights.<sup>27</sup> Having reached this conclusion, one realizes the controversy that has surrounded the problem of the effectiveness of second generation human rights over the last decades. What is the limit of the state's obligations in guaranteeing and realizing these rights? In fact, it must be recognized that the arguments between the defenders of a more contained social minimum (a more utilitarian vision) and the defenders of a broader and more extensive "social contract" remain current and open. In conclusion, based on the analysis of the literature presented here (in a non-exhaustive way), it is necessary to find a point of balance, a meeting point between the two visions in confrontation, in order to find the indispensable social minimum to allow everyone access to second generation Human Rights, essential to provide equal opportunities to every human being, regardless of their original condition. This point of balance, in our opinion, leads to priority of the right to health, to education and higher education, to housing, and to work in conditions of equity and adequate personal fulfillment. Nevertheless, there is often a position of controversy on reconciling, for example, the right to the protection of human life, health and compulsory vaccination. This is an important but controversial issue. The guarantee of these rights will enable everyone to acquire the necessary skills to become autonomous and capable of exercising with responsibility the fundamental rights and freedoms, that is, the first generation human rights.

### **3.1. The protection of second-generation human rights in the legal and constitutional system Portuguese**

Like first-generation human rights, the second generation are also protected in the Universal Declaration of Human Rights, later incorporated in Articles 22 to 28 of the Universal Declaration and the International Covenant on Economic, Social and Cultural Rights. In Portugal, these rights are enshrined in Articles 53 to 79 Constitution of the Portuguese Republic (PRC), designated by economic and social rights, rights analogous to fundamental rights, freedoms and guarantees, provided for in Articles 24 to 52 of the PRC. In turn, in the definition of the fundamental principles of the Portuguese Republic, article 9(d) of the PRC establishes as a fundamental task of *the state promoter the well-being and quality of life of the people and the real equality between the Portuguese, as well as the realization of economic, social, cultural and environmental rights, through the transformation and modernisation of economic and social structures*. It is expressly enshrined in Article 9(d) of the PRC, as the fundamental task of the State, the promotion and enforcement of economic and social rights, known as second-generation Human Rights. The Portuguese Constitution incorporates the rights and guarantees of the European Convention on Human Rights (ECHR) under Articles 8 and 16, which impose its reception in the internal legal order, implying the automatic reception and direct application of the rules of the Convention in the Portuguese courts, as well as the fact that they are bound by the interpretation made by the ECtHR as to the provisions of the Convention. On the other hand, human rights are no longer invoked only in constitutional jurisdiction, they are also present in all other branches of law. In addition, the convention for the protection of human rights and fundamental freedoms is also being invoked before the courts, and the Convention for the Protection of Human Rights and Fundamental Freedoms is increasingly important to the Convention in the internal legal system. In case of conflict of fundamental rights, the possible balance must be found in order to harmonise the rights in conflict. The decision has to be examined on a case-by-case basis and must be proportional, according to the Constitution.

<sup>26</sup> Ibid, pág.354-355

<sup>27</sup> No mesmo sentido vd. THOMAS PIKETTY. O Capital no século XXI. Círculo de leitores. 2013

#### **4. PANDEMIC, STRENGTHENING AND CONFLICT BETWEEN SECOND-GENERATION FUNDAMENTAL RIGHTS**

The grave consequences of the COVID19 pandemic resulted in the emergence of these second generation human rights. Indeed, we are witnessing the emergence of the right to health and the intervention of states to ensure the treatment and containment and prophylaxis of the disease. But it was not only at this level that the consequences were felt. In fact, all over the world, we have seen decision-making by governments and other public entities to restrict fundamental rights and freedoms, imposed in need of successive confinements. For the current generation, it was the first time that restrictions on fundamental first-generation rights were imposed in such an intrusive way. All the measures enacted in this place have reached fundamental rights in a sweeping way, generating, as is sometimes known, great disturbance of public order by the refusal of many to accept such measures restricting individual freedoms. We also see devastating effects on economies globally. As a result, many states have adopted special legislation to protect housing rights, minimum subsistence, allowing moratoriums for home loan debtors, exceptional measures in employment law and business support, with the aim of securing jobs. The greater tolerance for compliance with tax obligations and the suspension of ongoing executive proceedings are also an example of the need for states to safeguard a social minimum indispensable for the maintenance of social peace and democratic regimes. However, in each of these exceptional measures adopted in pandemic time, we find as the underlying basis the safeguarding of fundamental second-generation rights, without which the most essential rights of the human person such as the right to subsistence and, to the limit, the right to life would be definitively endangered. The 2008 financial crisis exacerbated in 2011, which created an unprecedented economic and social crisis, had already raised the awareness of the international community of the need to pay greater attention to safeguarding economic and social rights, called second-generation human rights. At that time, the principle of prohibiting social retrogression as a safeguard for fundamental rights and democracy itself gained strength. The pandemic that arose in 2019, when economies around the world were showing tenuous signs of recovery from the crisis, has even more vigorously exposed the need to guarantee these rights, which are, in fact, the support for the effectiveness of first-generation rights.

#### **5. THE CONTRIBUTION OF THE EUROPEAN COURT OF HUMAN RIGHTS**

The case law of the European Court of Human Rights (ECtHR) has been instrumental in the interpretation, enforcement and enforcement of human rights. Analyzing the Jurisprudence of the ECHR is an impossible task in a study with the characteristics of the one presented here. It is necessary to delimit this analysis. Thus, we return to the central point of this work, which focuses on the emergence of second generation human rights in times of the COVID 19 pandemic. Well, there is no doubt that the jurisprudence of the ECHR has also been sensitive and attentive to this emergency and the need to reposition the importance of these rights. From this perspective of analysis, it is highlighted that, for several decades and with greater prominence after the economic and social crisis of 2008, triggered by the global financial collapse, the ECHR has been strengthening the attention paid to these rights, and some judgments for the protection of the right to education associated with the defence of the principle of equality and non-discrimination in access to housing<sup>28</sup>, may be highlighted, right to work<sup>29</sup> in several judgments focused on their relevance to safeguarding the principle of

<sup>28</sup> Agency for Fundamental Rights of the European Union and the Council of Europe - European Children's Rights Legislation Manual, 2015, available in [https://www.echr.coe.int/documents/handbook\\_rights\\_child\\_por.pdf](https://www.echr.coe.int/documents/handbook_rights_child_por.pdf)

<sup>29</sup> In this regard, vd. judgment of the ECtHR, Hirtu and others Of 14 May 2020, in which the principle of non-discrimination (in this case against a group of Roma citizens) is addressed in the context of access to social housing, on the basis of the principle of access to social housing, concluding that the expulsion from the camp where they lived, in the absence of a social housing solution to accommodate them, consisted of a clear violation of human rights, among which is mentioned the right to housing.



human dignity and many others that we could mention.<sup>30</sup> In the analysis and research of ECtHR case law on the protection of second generation human rights, we find that they have in common the fact that a first-generation right is always invoked first-generation. The factum is founded on the violation of first-generation human rights, which the ECtHR points out that the violation of the right to education, work or housing (second generation rights) constitutes first-generation human rights violations. To put it another way, it seems clear to us that for the ECtHR the violation of access to essential goods and services such as education, health, housing or work can embody human rights violations because they violate human dignity, the prohibition of discrimination, the application of cruel or inhuman treatment. It is a very pragmatic way, we conclude, to say that without the realization of second generation rights, first generation rights are not guaranteed. To this extent the case-law of the ECtHR has shown remarkable sensitivity and assertiveness in the greatest importance given to economic and social rights, which is worth saying, to the emergence of second generation rights as a fundamental condition for the guarantee of individual or first generation rights. This analysis would be incomplete without a greater emphasis on the right to health. In fact, the focus of this study is on the emergence of second generation rights in times of covid pandemic 19. From this perspective, it should be highlighted in a recent judgment, delivered by the ECtHR, in which the right to health over the right to individual freedom of expression and the protection of individual freedom in the aspect of choice over what each of us believes is best for its protection against the disease. We are, of course, talking about the ECtHR rulings on the problem of compulsory vaccination against the COVID virus 19. It was not the first time that the ECtHR had to address the issue of compulsory vaccination as a possible violation of individual freedom, but it is the first time that it unequivocally states that the right to health (this is understood in a collective dimension) must overtake the right to individual freedom of choice as a dimension of freedom of expression and choice.<sup>31</sup> Thus, in the judgment of the ECtHR of 8 April 2021, "GRANDE CHAMBRE, VAVRICKA AND OTHERS in the CZECH REPUBLIC", which invokes Article 8 of the ECHR which enshrines the right to private and family life (first generation right), the Czech Republic opposes the collective interest in combating the pandemic, the fight against an infectious disease and rapid spread to justify compulsory vaccination. At issue is therefore the question of the possible conflict between the deferred need for the protection of public health and the protection of the intimacy of the human body, only available with the consent of the injured party and the right to freedom of thought, conscience and religion, enshrined in Article 9 of the ECHR. This was the question brought to the ECtHR by six families of citizens of the Czech Republic, who complained that, because they refused to fulfil the obligation to vaccinate their minor children, they were imposed irreconcilable conditions under Article 8 paragraph 1 of the ECHR. The 1st section of the ECtHR, after examination of the matter of fact available through the documentation submitted, considered that the competence for the award of these

<sup>30</sup>In this regard, cf. judgment of the ECtHR *Biľulescu* In this regard, cf. judgment of the ECtHR, *Hirtu and others* Of 14 May 2020, in which the principle of non-discrimination (in this case against a group of Roma citizens) is addressed in the context of access to social housing, on the basis of the principle of access to social housing, concluding that the expulsion from the camp where they lived, in the absence of a social housing solution to accommodate them, consisted of a clear violation of human rights, among which is mentioned the right to housing.. Romania of 12 January 2016, delivered in Case No 61496/081, which addressed the issue of the right to work from an innovative perspective and which shows an increased sensitivity to this reality.

<sup>31</sup> In this regard, in a different approach to the right to health from a perspective of the individual right of the human person, cf. ZHOURI, F. P. (2013). The social right to health:- analysis of decision of the European Court of Human Rights. *Revista De Direito Sanitário*, 12(3), 177-181. <https://doi.org/10.11606/issn.2316-9044.v12i3p177-181>. In this study the author analyzes a judgment of the TEDH, concerning the case of a citizen of Uganda who, being illegal in the United Kingdom, intends to continue to reside in London for AIDS treatment. This is the Case of *N. v. United Kingdom*, which was tried in 2008; ruled against infringement of Art. 3 of the European Convention on Human Rights (ECHR) on the basis of the understanding that in the present case there is no risk of exposure of the applicant to inhuman or degrading treatment.

complaints was to be submitted to the "Grande Chambre". Several associations and other States have been involved. The merits decision of the Committee on Social Rights considered that *"generalised vaccination is not only a means of preventing a concrete disease in an individual, but contributes (to hygiene, food, etc...) for the general prevention of society (the firewall referred to above) against the generalization of infectious and epidemic diseases."* In a word the right to health, not only individual, but of all was considered as more relevant than the safeguarding of the individual rights invoked by the complainants. This judgment is a very important milestone in the evolution of the case-law of the ECtHR, revealing a current interpretation of the individual rights enshrined in the ECHR. The case examined shows, as ALVES CORREIA states, that *"the interpretation of the provisions of the Convention, carried out by the European Court, is a dynamic interpretation, that is, attentive to economic, social, political and ethical-value changes. It thus has an internal impact on deepening and strengthening the meaning of constitutionally provided fundamental rights."*<sup>32</sup> The contribution of the ECtHR is therefore fundamental in the implementation of first and second generation human rights, and the recent evolution of its jurisprudence reveals a growing emergence of second generation human rights, which are increasingly considered essential for its effective guarantee. The contribution of the ECtHR is also essential in the regulatory framework. Its case-law is a medium-mediated but very important and autonomous source of law in the Member States on fundamental rights and its influence on different internal laws. Over time, the European Court has built sophisticated, progressive case law that has enabled the advancement of various legal systems on human rights.

## 6. CONCLUSIONS

In view of what has been exposed, we can say that the emergence of these second generation human rights is demonstrated as a result of the terrible consequences of the pandemic generated by the COVID 19. In fact, we are witnessing the emergence of the right to health and the intervention of states to ensure treatment and containment and prophylaxis of the disease. The COVID 19 pandemic highlighted the failures of the international legal system in the defense of human rights and, to that extent, constitutes a unique and exceptional challenge for the advancement of these rights effectively on a global scale. The analysis developed in this study aims to demonstrate the emergence of second generation rights, whose guarantee should be considered paramount and a precondition for the effectiveness of first generation human rights. Not only do we defend but we consider it fundamental to guaranteeing the principle of the prohibition of social retrogression, inscribed in the material constitution of the States of the European Union and not only as a corollary of the democratic and social rule of law. The principle of proportionality and prohibition of retrogression of human rights gained strength in the face of the emergence of second generation human rights as an essential condition for the preservation of humanity and a precondition for the effective realization of fundamental freedoms and guarantees. This is a unique opportunity to reconsider the human rights hierarchy, which is undoubtedly an unprecedented challenge, essential for preserving the very rule of democratic and social law. Finally, we do not align ourselves in the defense of a State that guarantees everything to citizens, because we know that this is not possible without a gap and intergenerational conflict, as we explained in the present work, which will eventually endanger democracies and will collapse the desired Rule of Social Law. In this matter we defend as essential to find a balance point in the definition of the "social minimum" indispensable to ensure that democratic achievements do not come to the retreat and give way to extremist populism, right or left, equally totalitarian and enemies of human rights. This "social minimum" should focus on ensuring the most pressing social rights, guaranteeing the new generations the right to housing, the right to health and the right to education and higher

<sup>32</sup> FERNANDO ALVES CORREIA, "Fundamental rights and their effective judicial protection", 2003, p. 86

education. This order is not random, not even original, because in the early days of political and economic liberalism. This order has a logical and obvious meaning for us: we must guarantee the right to affordable, decent and inclusive housing, because without this it is not possible to guarantee the right to physical and mental health of citizens, and only with these minimum levels of guaranteed well-being can we ensure access to education and technical and higher education, with conditions of success and use, in order to guarantee each one the skills to be free and enjoy the human rights proclaimed but still far from realized. Finally, let it be clear that this is not a charitable or charitable view of state intervention. Rather, it is to require the State to fulfil its essential function, that is, to guarantee the minimum conditions to be able to assert itself as a democratic and social rule of law and to be able, yes, to demand socially responsible behaviour from its citizens. In case of conflict and freedom of individual liberty and compulsory vaccination, it must prevail for the protection of public health. The decision imposing d and restrictions on individual freedoms and the application of police measures should be considered and proportionate, taking into account the collective interests to be guaranteed. Far from exhausting the subject, this is only a modest contribution to reflection on something that we consider essential to guarantee democracy and remove the shadow of the return of totalitarianism of any kind or orientation, which castrate all freedom and annihilate fundamental rights, whether first-generation or second-generation.

#### LITERATURE:

1. DOMARADZKI, Spasimir; KHVOSTOVA, Margaryta; PUPOVAC, David. *Karel Vasak's Generations of Rights and the Contemporary Human Rights Discourse*. Springer Nature B.V, 20 (4), p.424, 2019
2. DONNELLY, Jack. *Universal Human Rights in theory and practice* (3<sup>rd</sup> ed). Ithaca and London: Cornell University, 2013
3. FERNANDO ALVES CORREIA, *Os direitos fundamentais e a sua proteção jurisdicional efetiva*, p.86, 2003
4. JOSEPH STIGLITZ. *O Preço da Desigualdade*. 1<sup>a</sup>. ed. Bertrand Editora, 2013
5. PIKETTY, Thomas. *O Capital no século XXI*. Círculo de leitores. 2013
6. RAWLS, John. *Uma Teoria da Justiça*. Fundamentos – Editorial Presença, 2<sup>a</sup> ed., pág. 227-228. 2001
7. ROBERT SKIDELSKY. *Keynes – o Regresso do Mestre*. Texto Editores – Leya, 2018
8. SEN, Amartya. *A Ideia de Justiça*. Coimbra: Almedina, p. 472, 2009.
9. VAŠÁK, Karel. Human Rights: A Thirty-Year Struggle: the Sustained Efforts to give Force of law to the Universal Declaration of Human Rights. *UNESCO Courier*, 11: p.29–32, 1977
10. ZHOURI, Fernanda Pereira. O direito social à saúde - análise de decisão da Corte Europeia dos Direitos do Homem. *Revista De Direito Sanitário*, 12(3), p. 177-181, 2013. Disponível in: <https://doi.org/10.11606/issn.2316-9044.v12i3p177-181>.

