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МЕТОДИКА И КЊИЖЕВНОСТ
METHODOLOGY AND LITERATURE

NARRATIVE COMPETENCE: A PRELIMINARY STUDY OF STORYTELLING IN PRESCHOOL CHILDREN

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Abstract

The aim of this research is to determine the characteristics of storytelling in preschool children. The study included 60 children, aged four, five and six years. The characteristics of the narration of a story on the macrolinguistic and microlinguistic plane were assessed by applying the Comic story task (Kostić, Vladislavljević & Popović, 1983).

The results of the macrolinguistic structure of storytelling showed that focus in four and five-year-olds is in describing the introductory event and the activities leading to a goal. In contrast, with six-year-old children story patterns exist at a cognitive level, since the elements of the comic story are consistently described in just slightly less than half of the them.

The results of the microlinguistic structure of storytelling showed that the four-year-olds stories predominantly contain simple sentences, while simple-extended and dependent-complex syntactic constructions dominate in the stories of five-year-olds. In contrast, there is a tendency in six-year-olds to use complex (consecutive, dependent) sentences. Storytelling in children develops gradually over the preschool period, so instructions for storytelling is important for all children, especially for those at risk for or with language learning impairments.

Key words: language development, storytelling, preschool children

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НАРАТИВНА КОМПЕТЕНТНОСТ: ПРЕЛИМИНАРНА СТУДИЈА ПРИПОВЕДАЊА ПРИЧЕ КОД ДЕЦЕ ПРЕДШКОЛСКОГ УЗРАСТА

Апстракт

Циљ овог истраживања је утврђивање карактеристика приповедања приче код деце предшколског узраста. Истраживањем је обухваћено 60 деце, узраста од четири, пет и шест година. Карактеристике приповедања приче код деце на макролингвистичком и микролингвистичком плану процењене су применом задатка Стрип прича (Костић, Владисављевић & Поповић, 1983).

Резултати истраживања макролингвистичке структуре приче су показали, да се код четворогодишњака и петогодишњака фокус приповедања приче налази у описивању уводног догађаја и активности којима се долази до циља. За разлику од њих, код шестогодишњака шема приче постоји на сазнајном нивоу, будући да су елементи стрип приче конзистентно описивани у нешто мање од половине деце.

Анализом резултата микролингвистичке структуре приче утврђено је да приче четворогодишњака преобладају садрже просте реченице, док просто-проширене и зависно-сложене синтаксичке конструкције доминирају у наративном дискурсу петогодишњака. За разлику од њих, у групи шестогодишњака је присутна тенденција коришћења сложених (напоредних, зависних) реченица. Приповедање приче код деце постепено се развија током предшколског периода, а савети о подстицају развоја ове способности су важни за сву децу, посебно за децу са присуством ризико фактора на рођењу или децу са дефицитима у развоју говора и језика.

Кључне речи: језички развој, приповедање приче, деца предшколског узраста

INTRODUCTION

A key task of early childhood education is to develop oral discourse. Lawrence and Snow (2011) define oral discourse as extended oral production, centred around a topic, activity or goal. Oral discourse involves the comprehension, production, and recall of extended units of speech. Stories and oral discourse are two major genres of narration. Stories involve characters that engage in goal-directed actions to resolve problems or complications. Storytelling facilitates children's ability to engage in patterns of discourse, such as learning how to verbally display their knowledge. Proficient vocabulary, inferencing and discourse skills are foundational for academic success and are particularly related to later skilled reading comprehension (Roth, 2009).

Young children are surrounded by stories every day (Genishi, & Dyson, 2009). Stories, whether told through children's picture books, songs, images, film, television or other popular media are among the most ancient and valuable forms of education for shaping children's perceptions of reality (Marshall, 2016). Common and classic story pattern form includes: introduction of setting and characters, introduction of problem or dilemma, rising action and plot development, insightful answer or solution, climactic scene and a quick, satisfying conclusion (Machado, 2013).

According to Halliday and Hasan (1976), narration of a story requires macro-organization of discourse units involving the ability to sequence events, understand cause–event relationships and structures, and create a unified text. Specifically, this type of narratives requires the production of multiple linguistic propositions. They are expected to contain an introduction and an organized sequence of events that lead to a logical conclusion, and they require the narrator to carry on a monologue during which the listener assumes a relatively passive role. Thus, it is the narrator’s responsibility to present information in an organized, complete, and coherent manner without the expectation of substantial informational or extra-linguistic support from the listener (Halliday & Hasan, 1976; Roth & Spekman, 1986).

The research of narration of a story is motivated by both conceptual and practical considerations. Conceptually, the narrative is considered a primary mode of human thought that is learned and used by children to organize and make sense of the world (Bruner, 1985). It is also a universal linguistic vehicle for constructing and transmitting meaning, and for acquiring knowledge. Further, narratives reflect the integration of an individual’s linguistic knowledge, world knowledge, and sociocultural background, and provide a mechanism for language socialization, the means by which children become members of their linguistic and cultural communities (Hardy, 1978; Sutton-Smith, 1986).

Storytelling is a cornerstone of society, sharing experiences and values. Children can pass on the stories that have been given to them, they can share their own perspectives, and they can create their own stories from their imaginations. This narrative process helps children become part of the greater society at the same time that it builds their own literacy competency. Storytelling also engages the child emotionally, and allows them to construct meaning on a personal level (Engel, 1999; Farmer, 2004).

Storytelling is probably the first situation in which the child must sustain a monologue without the support of a conversational partner. It is a complex behavior that involves a kind of “story sense” and “story grammar.” To be coherent, a child’s story needs to be more than an unrelated series of events, as is often the case with beginning child storytellers (Machado, 2013).

In children’s fantasy world, storytelling has a great role since it provides a tool to reflect the children’s inner feelings. Storytelling that includes expressions of stories in a physical space can deeply enhance creativity and imagination (Sugimoto, 2011). Storytelling can be viewed as an activity that allows people to share their experiences, thoughts, or imagination with verbal statements.

This activity also enables children to use language without feeling any restriction or difficulty. Telling stories contributes to children’s lan-

guage ability by helping them choose the appropriate vocabulary and structure the stories in a coherent way (Loizou, Kyriakides, & Hadjicharalambous, 2011). Children have control in terms of using language in storytelling. Since storytelling does not require any systematic work for children, it provides them an enjoyable environment (Ryokai, Vaucelle & Cassell, 2003; Cassell & Ryokai, 2001).

While there have been many studies of language development in young children, storytelling has received little research attention. The method of narration of stories is frequently suggested in children's literature. However, a limited number of research studies have investigated storytelling and its possible influence on the language development of young children.

Ellis (1997) suggests that storytelling is the most effective way to develop listening skills. Storytelling also provides an opportunity to experience the difference between listening quietly and listening actively, by participating in the process. Many authors agree that storytelling helps teach children listen; it helps develop skills in both oral and written communication, while developing understanding of story schema, fluency and vocabulary acquisition (Kim, 1999; Strickland & Morrow, 1989; Farrel & Nesel, 1982).

Collins (1999) determined that storytelling has many uses in the education of primary children, providing a conceptual framework for thinking, which allows children to shape experiences into a whole they can understand. Stories allow children to mentally map experiences and see pictures in their heads; telling traditional stories provides children with a model of language and thought that they can imitate. Peck (1989) said that telling stories in the classroom furthers oral and written language development, as well as comprehension for reading and listening.

Tabors, Snow, and Dickinson (2001) findings showed that a measure of narration of stories in kindergarten was one of four measures to correlate significantly with reading comprehension and receptive vocabulary in children. According to Maguire's (1985) study, storytelling serves many purposes including increased vocabulary and concentration, as well as developing the young child's ability to think symbolically and metaphorically. In an observational study conducted by Palmer, Harshbarger and Koch (2001), young children made gains in story concept, comprehension, vocabulary, and many other areas, after participating in a story time program using storytelling.

Agosto (2016) investigates the literacy benefits of oral storytelling on the sample of twenty second-grade students. Results of the study showed that oral storytelling improves: 1. Visualization, which is a foundational literacy skill, helping young readers to comprehend written texts; 2. Cognitive engagement, which also improves literacy; 3. Critical thinking, which is closely tied to cognitive engagement. They both involve

deep thinking about story content and meaning. 4. Story sequencing, which is the ability to identify different events in a story and place them in chronological order.

Storytelling is a medium that a teacher can develop and use to increase a child's enjoyment of language. It can be defined as easy, spontaneous, intimate sharing of a narrative with one or many persons. The storyteller relates, pictures, imagines, builds what happens, and crafts characters, all of which is manifested through the storyteller's voice and body (Machado, 2013).

The interaction in storytelling is personal and immediate. Children learn the social aspects of language through observation and participation in this activity (Craig, Hull, Haggart & Crowder 2001). Eder (2007) describes storytelling as a powerful strategy for setting patterns of meaning. Through participation in storytelling experiences, children learn to build a sense of story by anticipating features of the genre, including how a story may begin and end (Craig, Hull, Haggart & Crowder, 2001). The development of a sense of story allows children to make better predictions, to anticipate what is next, to increase awareness of cause and effect, sequence events, and develop other skills that aid comprehension. Storytelling further assists in the development of a sense of story by incorporating the use of essential story elements. These elements include point of view, plot, style, characters, setting, and theme (Haven & Ducey, 2007). Comprehension, critical listening and thinking skills are also developed by combining storytelling with questioning, imagery, inferencing and retelling (Craig, Hull, Haggart & Crowder, 2001).

Children develop a "sense of story" naturally during their preschool years through experiences with various forms of narration (Westby, 1994). In an intermediate stage, between 3 and 4 years of age, children begin to chain events together that are sequenced temporally, but the event sequences are not anchored to or motivated by a central theme. Frequently, children at this stage describe a series of events in an additive fashion. Storytelling emerges around the age of 5. Children acquire the basic structure of stories, referred to as the "story schema," which involves knowledge that a story has a beginning, middle and end with a theme or plot that ties events together. This knowledge gives rise to fictional narratives, and children begin to understand and produce stories about made-up experiences that are not part of the immediate context (Roth, 2009) At this age, a qualitative shift occurs in children's narratives, and their stories now reflect knowledge of basic plot structure. These true/classic narratives contain a clearly demarcated beginning, middle and end, and the events are goal-oriented, or linked to a central theme or character. Moreover, causation is evident; story events are linked to events that precede or follow in true temporal relationships. While story knowledge continues to develop into more complex narrative

forms, it is at this point that children are said to have internalized knowledge of the story form, and use this knowledge to understand, remember and construct stories.

Narration of stories in education has been the focus of increased attention over the last few decades. To understand or create stories children must understand and create plots, the roles characters may play, the way they think and what motivates them to act. Preschool children have developed awareness about elements that are necessary for formation of cohesive and coherent stories, but the complexity of this task requires integration of a lot of information and loads the working memory. The consequence of that is variability of preschool children's achievement in storytelling, as well as dependence on the structuring of stimuli that are used in the task of storytelling assessment (for example remembering realistic and fantastic events as nonstructured stimulus over retelling a familiar story and/or generating a story in pictures as the most structured stimulus). Dependence on stimulus structuring during narration of a story is also present with children of lower grades of elementary school, which has been shown by the research in which the children of typical development and children with specific language disorders make a better structure of the story when they retell it than when they have to generate it (Merritt & Liles, 1989).

Some research indicates that preschool children are not fully competent to create stories, though this varies depending on the method of eliciting narratives. For example, Stein and Glenn (1975) argue that children's stories must first contain causal connectives linking events and then be goal-based and identifiable as such by adults. Leondar (1977) found that 4-year-olds and 5-year-olds can create stories that are based almost exclusively on temporal connectives, but they don't need to use causal connectives. Older children's stories are more complex and include more of the structural elements, such as setting information, a problem and its resolution, or an ending. For example, only 25% of preschoolers include a problem, and even fewer, 20%, a resolution of the problem in a story (Hudson & Shapiro 1991).

Whitehurst and Lonigan (1998) pointed out that understanding and production of stories represents one of the elements whose development precedes and conditions development of reading and writing skills. Results of a longitudinal study emphasize that not all aspects of narration of stories are predictors of reading and writing skills development. The amount of relevant information given from the child's storytelling (for example during description of situational pictures), as well as their ability to estimate and describe the emotional state of characters in the story, have shown to be good predictors of developing skills of understanding read and organizing written text (Griffin, Hemphil, Camp & Wolf, 2004). Results from some of the studies have shown that assessment of storytelling with preschool children, although not a very reliable instrument in diagnosing language

disorders, could help with prediction of achievements with the children with specific language disorders on other language tests (Pankratz, Plante, Vance & Insalaco, 2007). In the longitudinal study done on four and five-year-olds, the authors show that the best predictor of developing language pathology course is the task of retelling a story using pictures (Bishop & Edmundson, 1987).

The narration of a story differs from other forms of oral discourse by its structure. The structure of a story could be described on the micro-linguistic and macrolinguistic levels. The microlinguistic structure refers to phrases and sentences, as well as pronouns, conjunctions and other linguistic markers used for connecting parts of the discourse. Adequate use of these linguistic elements makes narration of a story cohesive (Liles, 1987). Macrolinguistic structure exceeds the level of the sentence. Some authors describe the macrolinguistic structure through episodes as logical units, among which time and cause and effect relations exist. When the narrator organizes episodes harmoniously, then they get coherent discourse understandable to the interlocutor (Stein & Glenn, 1975).

Assessment of narrative discourse is one of the most economical and the most interesting ways of collecting data on communication and language competence with children of typical development, as well as with the children with speech-language disorders of different etiology. In any case, it is important to know that this way of assessing language ability should be well structured, because otherwise validity and chance of analyzing such corpus of data could be questioned. It is considered that the Comic Story as a stimulus provides the synergy of structured circumstances and imaginative communication (Botting, 2002).

METHODOLOGY OF RESEARCH

The goal of this research is to establish characteristics of storytelling in preschool children through implementation of the Comic Story task. Regarding the goal of this research, the following tasks have been formulated:

1. Describing microlinguistic characteristics of storytelling in preschool children through:
 - length of the story;
 - type of the sentences used in storytelling;
 - types of connectives among the sentences in storytelling;
2. Describing macrolinguistic characteristics of storytelling in preschool children through:
 - frequency of formed episodes in the story (out of possible two),
 - frequency of story elements in the story (out of possible five);
 - independence in storytelling.

Sample

The research involved 60 children, out of which 29 (48%) girls and 31 (52%) boys, aged four (N=20), five (N=20), and six (N=20) years. Distribution of measures given on the sample shows that the children's age does not vary significantly from the normal distribution ($p > 0,05$) with values Skewness of 0,05 and Kurtosis of -1,23.

The research was realized during March 2019 in the scope of a preschool institution in Belgrade. The examinees were the children whose mother tongue was Serbian, with at least average intellectual skills, without the presence of sensory, motor and emotional disorders.

Instruments and Procedure

Characteristics of storytelling in children have been assessed on the Comic story task. Picture as a stimulus is a suitable instrument for examining speech and language skills at all ages. The Comic story as an instrument puts two tasks before a child: understanding and production. Besides talking about events given in the pictures, they are expected to understand each picture, as well as understand time and cause and consequence sequence of events. The oral statement given with the Comic story is more original than retelling, because it requires independent language formulation (Kostić, Vladisavljević & Popović, 1983).

The assessment of the macrolinguistic level of storytelling has been done according to the model of story analysis (Stein & Glenn, 1975). This model predicts two sections of each story: situation and episode(s). Situation has two functions in the story: to represent the main character and describe physical, social and time context in which the story happens. Stories in pictures often do not have this element emphasized, but even then the children feel the need to sort of present the main character or the place of the plot to us ("Once upon a time there was a little girl...", "A girl...", "She was looking through her bedroom window..." etc.). After describing the situation, i.e. the story's main character and ambience, follow(s) the episode(s) whose elements are related to time and cause and consequence relations. The story can contain one or more episodes. The episode elements are:

- *The introductory event.* The happening that becomes an introduction for the main character's acting in the story.
- *Reaction.* Psychological state of the character caused by happenings in the story. Reaction involves reflections and feelings of the main character about the introductory event or final outcome. This story element requires perspective-taking of the main character.
- *Internal plan.* Internal planning of activities is absent in the stories in which there is only one goal and when the goal is reached by simple activity (The story of the Snowman used in this research is

one of those stories, so this element of the story has not been analyzed).

- *Action*. An activity through which the main character reaches the goal.
- *Outcome*. This element of the story tells us that the main character has reached the goal and which events have directly led to its reaching/failure.

A Comic story can consist of several episodes. The system of episodes can be connected in different ways, and those are commonly time connected episodes (“And then...”) or cause (“Because...”, “Because of...”). According to Stein and Glenn (1975) the complete episode is considered to be the one containing at least three elements: the introductory event, activities leading to the goal and reaching/failure in the goal reaching. If one of these elements is missing, the episode is incomplete. If two elements are missing, it means that there is no episode.

Using four illustrated pictures that represent a story on the unfortunate destiny of the Snowman, the children were provided with structured visual stimulus and enough information for structuring a story. The children had a task to use the given information in order to form a story. Pictures in the story of the Snowman illustrate two episodes: the making of the Snowman and its melting in the hot sun. Most elements of both episodes are clearly visible in the pictures. Elements that are not supported by illustrations (finished Snowman as the outcome of the first episode; the sad character of the little girl watching the Snowman melt as a reaction to the outcome in the second episode) should have been evoked by the children themselves. Both episodes are connected by the time sequence of events: first, the Snowman was made, and then it melted in the sun. Structuring the story of the Snowman according to the model of story analysis was given in the Appendix.

The examination of the story’s macrostructure has been done in a way that the above mentioned elements of the story (situation, introductory event, activity, reactions, outcome) are analyzed in transcribed discourses. Besides the spontaneously produced statements, we have also taken into consideration the children’s replies to the questions of the examiner speech-therapist (“And then what?”, “What happened next?”). If the proposed question would contain allusions to the reply (“What did the boy see? How was the weather?”), such answers were not analyzed.

Besides the above mentioned elements in the storytelling, the analysis of macrolinguistic structure has also been done through:

- The number of episodes in the story as a categorical variable showing whether both episodes are present and whether they are complete or not.
- The number of stimulating questions referred to a child by the examiner speech therapist, described as the independence measure in the story formation.

The other aspect of this research is the microlinguistic organization of the story recognized through children`s skills to use linguistic markers in cohesive discourse production. As cohesiveness measures in this research, we have taken into consideration the following:

- Kinds of connectives among sentences made by conjunctions, such as: coordinating, temporal, causal and exclusive. Every discourse has been analyzed to see which type of sentence is dominant. If two or more connectives are equally present, the more complex one was analyzed.
- Length of the story as indicator of the number of communicative sentences necessary to form the story. Each discourse has been divided into simple, extended and compound sentences. Subordinate clauses, i.e. the clauses having made a complex syntactic structure, have been analyzed as a whole along with independent sentences that that make a communicative whole with. Unfinished/interrupted sentences have been taken into consideration, as well as those having been produced after questions of examiner speech-therapist.
- Types of sentences as indicators of complexity of syntactic discourse organization. This categorical variable has been described through four categories: simple, extended and compound sentences (parataxis and subordinate clauses).

Examination Procedure

Illustrated Comic story implemented for the needs of this research has been presented to children in A4 paper with the following instructions: *“Now you can tell me a story about the Snowman. These pictures will help you with it. Follow then in this order, from the first to the last and tell me what happened to the Snowman.”*

Statement of each child has been recorded and transcribed. Additional questions proposed to them varied from weakly structured (for example *“And then what?”*) to those highly structured (for example *“Why is the Snowman melting?”*, *“How is the weather outside?”*), which have been proposed when the children would make longer pauses, have problems with storytelling initiation and disorganization (*“One day...in the morning the boy woke up and saw that the Snowman melted away”*). Every child was individually questioned in a separate room.

Statistical Data Processing

For the purpose of statistical data processing we have used measures of descriptive statistics (arithmetic mean, standard deviation, correlation) and inferential statistics (ANOVA – analysis of variance). Data analysis has been done with statistical package SPSS 20.

RESEARCH RESULTS

Macrostructure of the Story

Achievements of children from three age groups with the Comic story task have been shown in the Chart 1.

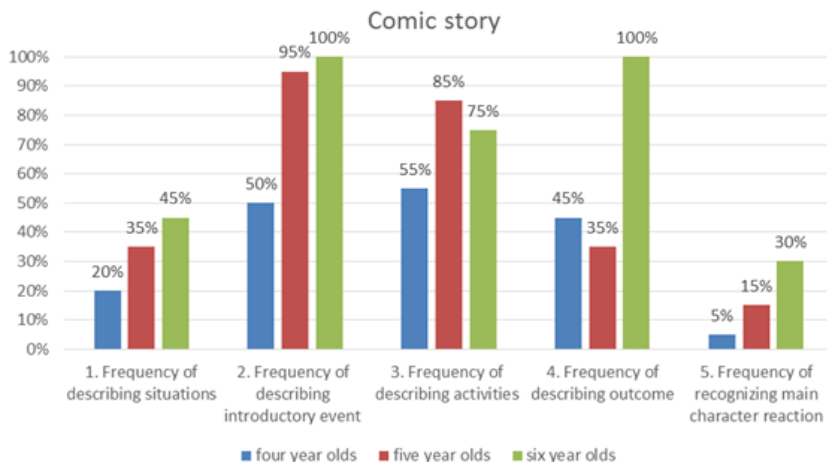


Chart 1. Achievement of children at the Comic story task

The Chart 1 shows frequency of children at different age at tasks: description of the situation shown in the picture, description of the introductory event in the story, description of activities leading to the goal, description of outcomes in the story and recognizing reactions of the main character in the story.

The description of the characters and the environment in which the story takes place is present in storytelling in a little over 30% children from the sample. Among the four-year-olds, 20% describe the situation and make the introduction for the plot in that manner. The same is done by 35% of five-year-olds and 45% of six-year-olds. Although there is tendency of a bigger review of the characters and ambience in storytelling in older children, it has not been shown as statistically significant ($F=3,07$; $df=1$; $p=0,08$).

By the analysis of the frequency of describing the introductory event, it has been established that among the four-year-olds there is an equal number of those who designate and do not designate the introductory event in the story, as 95% of five-year-olds turn to the introductory event in the story, as well as 100% of six-year-olds. Statistically significant influence of children's age on frequency of designating introductory event has been established ($F=54,50$; $df=39$; $p=0,01$). Research results have shown that four-year-olds statistically significantly less describe the

introductory event at the Comic story task in comparison to five-year-olds ($p < 0,05$) and six-year-olds ($p < 0,05$).

When it comes to the description of activities leading towards the goal, the research results show that six-year-olds do that in 75% of cases, and five-year-olds in 85% of cases. Among the four-year-olds, 55% of them describe this element in story. The statistical significance on the connection of age and describing activities leading to the goal in children's storytelling has not been established ($F = 0,06$; $df = 1$; $p = 0,81$).

Describing event outcome in the Comic story has been established with all six-year-olds in our sample of children (100%), 35% of five-year-olds and 45% of four-year-olds. The given results show statistically significant influence of children's age on frequency of describing event outcome ($F = 24,29$; $df = 57$; $p = 0,01$). Given results show that six-year-olds statistically significantly more commonly describe the event outcome at the Comic story task in comparison to five-year-olds ($p < 0,05$) and four-year-olds ($p < 0,05$).

The smallest success at the Comic story task was achieved by children during the assessment of successfulness in describing emotional reactions of the main character to the events in the story. This element is mostly absent at all three age groups and it has been established with 16.7% children from the sample. Only 5% of four-year-olds, 15% of five-year-olds and 30% of six-year-olds turn to the emotional state of the main character. Statistically significant difference among the three age groups in terms of describing reactions of the main character has not been established ($F = 3,68$; $df = 1$; $p = 0,06$).

Table 1 shows achievements of the children at three age groups at completing the episode task in the scope of the Comic story.

Table 1. The number of episodes in children's discourse at the Comic story task

Age groups	Number of episodes				
	Both episodes	Complete and incomplete	Both incomplete	One incomplete	None
Four-year-olds	5%	0%	25%	40%	30%
Five-year-olds	5%	10%	25%	60%	0%
Six-year-olds	20%	25%	40%	10%	5%
Total	10%	11,7%	30%	36,7%	11,7%

The given results show that, on the total sample, a small percent of children (10%) manage to describe both episodes through a series of situational pictures. It was mostly about children's discourses containing one incomplete episode (36,7%).

As 20% of six-year-olds manage to complete both episodes shown in the Comic story, 40% of them form two episodes, both of which are

incomplete. Five-year-olds (60%) have barely one incomplete episode. The greatest number of four-year-olds also has barely one incomplete episode or none. The difference between these two groups is that the younger group has 30% of children whose discourse does not contain any episode during story structuring, whereas among the five-year-olds there are no children who have not managed to make at least an incomplete episode.

In order to assess independence of children at the Comic story task, correlation analysis has been applied. Results indicate that there is a moderate correlation between the children's age and the number of questions proposed by the examiner speech-therapist as aid for them to complete the story. As children in our sample were older, the number of proposed questions by examiner-speech therapist was lower ($r=-0,47$; $p<0,05$). On average, one question needed to be posed with six-year-olds ($AS=0,85$), two questions with five-year-olds ($AS=2,20$), and three questions with four-year-olds ($AS=2,95$) during this task.

Microstructure of the Story

The length of the children's stories has been shown through the number of sentences produced during storytelling. Both the sentences that were spontaneously produced, as well as those caused by questions of examiner-speech therapist have been analysed. In order to assess the influence of children's age on the discourse length, ANOVA (analysis of variance) has been applied. The difference in average length of discourse among four-year-olds ($AS=5,05$; $SD=1,15$), five-year-olds ($AS=4,85$; $SD=1,23$) and six-year-olds ($AS=4,45$; $SD=1,10$) has not been found as statistically significant ($F= 1,39$; $df=2$; $p>0,05$).

In Table 2 results of average number of words in children's storytelling at three age groups has been shown.

Table 2. Average number of words in children's storytelling at three age groups

Children's age	N	AS	SD
Four-year-olds	20	15	5,10
Five-year-olds	20	22	6,02
Six-year-olds	20	27	4,59

When it comes to lexical-semantic level of development, the results of the research show that there is a statistically significant difference in the overall number of words at the Comic story task among different age groups ($F=24,87$; $df=2$; $p=0,01$; $\eta^2=0,47$). Analysing the given results, we have established that the older children produce much more words in storytelling than the younger children, whereby the age explains 47% of variance in children's achievements at this task. Additional tests

have established that among all groups of children there is a significant difference in the total number of produced words, so the production of the total number of words with six-year-olds ($p < 0,05$) is statistically significantly higher than the one we find at five-year-olds ($p < 0,05$) and four-year-olds ($p < 0,05$). Significant differences have been established among five-year-olds and four-year-olds as well, provided that four-year-olds have the smallest total number of produced words in comparison to other two groups of children.

The analysis of lexicon extent gives identical pattern of results like one in the case of lexical productivity. According to research results, age is found to be a significant factor of increase in lexicon extent, which can explain about 34% of variance in the number of content words produced by children at the Comic story task ($F=14,63$; $df=2$; $p=0,01$; $\eta^2=0,34$). Additional tests have shown that statistically significant difference is given in lexicon extent when the four-year-olds are compared to five-year-olds ($p < 0,05$) and six-year-olds ($p < 0,05$), in favor of the older children. Statistically significant differences in lexicon extent have not been established when achievements of five-year-olds and six-year-olds in production of content words are compared ($p > 0,05$). Chart 2 shows the analysis of the types of sentences produced by children at the Comic story task.

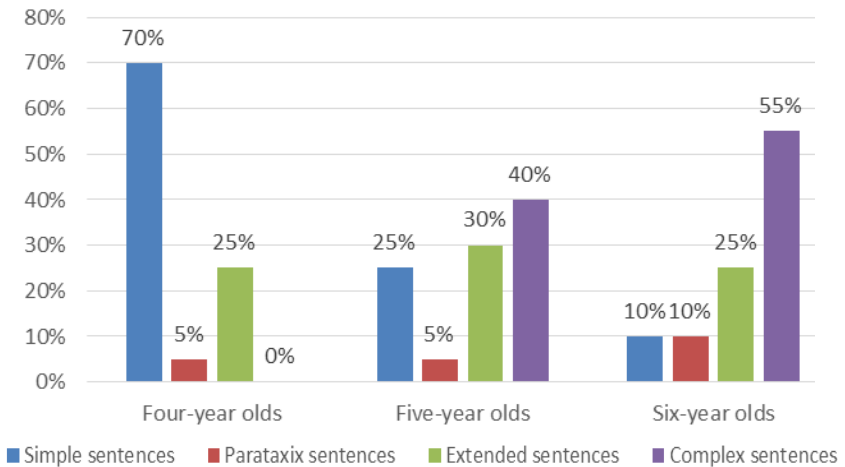


Chart 2. Frequency of different types of sentences in children's storytelling

The analysis of the type of sentences used by children in storytelling had a task to establish syntactic complexity, where production of compound (complex and parataxis) sentences would mark syntactically more complex production with regard to the discourse in which simple (predicate and extended) sentences dominate. Results of assessing frequency of different types of sentences in children's stories have shown

that storytelling with the major number of children consists of simple sentences (35%), as there is the smallest number of children whose storytelling contains complex sentences (6,7%). In the group of four-year-olds it has been established that 70% of children use simple sentences in storytelling, as none of the children uses complex sentences. Among five-year-olds, 40% of them use complex sentences, as 30% of children use extended sentences. When it comes to six-year-olds, 55% of them use complex sentences in the Comic story task, as 25% of children use extended sentences at this age. Statistically significant connection has been established between the age and the types of sentences used by children at the Comic story task ($F=9,42$; $df=56$; $p=0,01$). Namely, the research results have shown that four-year-olds use statistically significantly less complex sentences in storytelling than five-year-olds ($p<0,05$) and six-year-olds ($p<0,05$).

Chart 3 shows assessment results of the types of connectives between sentences in children`s storytelling at three age groups.

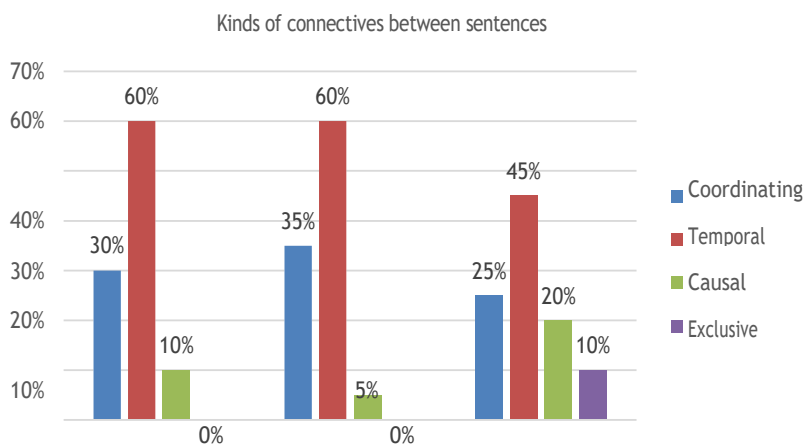


Chart 3. Types of connectives between sentences at the Comic story task

Connectives between sentences in 55% children of all ages have been achieved by linguistic markers (conjunctions) which have been indicating time connectives between sentence structures. Right after temporal connectives, there are coordinating connectives, which are used by 30% of children. The least used are exclusive connectives between sentences (3,3%) and only in the group of six-year-olds. Causal connectives, although present at all ages, are most common among six-year-olds, so 57% of the total number is in this age group. Statistically significant difference between three age groups of children regarding the types of sentence connectives has not been established ($F=1,74$; $df=3$; $p=0,17$).

DISCUSSION

The goal of this research was to establish the characteristics of storytelling with preschool children at the macro and microlinguistic plans.

Four-year-olds

The implementation of story analysis model describing the macro-linguistic structure of storytelling has shown that four-year-olds, in the majority of cases, more often describe events given in the picture than a Comic story with introduction, activity focused on the goal and outcome of the activity.

Taking into account that the macrolinguistic level of story organization requires the knowledge of the story scheme, it can be concluded that with four-year-olds this scheme is mostly absent, which is the reason why children do not make a difference between simple description of events and story structuring (Shapiro & Hudson, 1991). Consequence of this is that 80% of four-year-olds in this discourse have not turned to the ambience of the story, nor did they find it important to show the hero of the Comic story as the main character. The focus of storytelling in four-year-olds was on describing the introductory event and activities leading to the goal. 55% of children have not mentioned the outcome; emotional reactions of the main character have been described by only 5% of four-year-olds. Non-independence in storytelling evident during examination is statistically significant. Not only did four-year-olds need follow-up questions in order to help them complete the story, but the number of those questions was statistically significantly higher than with older children. In this group, there were children who needed only one or two questions, but there were also children who could produce only one sentence by themselves.

It can be concluded, at the microlinguistic plan that storytelling in four-year-olds predominantly contains simple sentences, and that complex sentences were rarely used. The sentences have been mostly connected in a way that time course of events in the story can be guessed from their connectives. Coordinating connectives between sentences have also been common and they match the tendency of children to describe events, before they structure a story. The number of sentences necessary to complete a story was five sentences in average. In the context of independence in story structuring in this group of children, it becomes clear that the majority of produced sentences has been stimulated by examiner speech-therapist's questions.

Five-year-olds

Among five-year-olds only 15% of them manage to complete one (10%) or two episodes (5%) of the Comic story. If we take forming of at

least one complete episode in the story as measure of narrative coherence, then it becomes clear that coherence of the Comic Story is a demanding task for five-year-olds, but with tendency of success increase at this task in comparison to four-year-olds, where coherent storytelling is managed to be produced only in 5% of cases.

The trend of omitting description of ambience of the plot and the main characters continues in this age group as well. The percentage of children describing this element does not exceed 35%. Just like four-year-olds, the five-year-olds also focus their story on the introductory event and activities leading to the goal. Still, five-year-olds are much more consistent in the description of these elements, so the percentage of missing elements is negligible. The outcome of the story and reactions of the main character in this age group are also more absent than present. Five-year-olds have not shown any special independence in story structuring, as the questions for discourse development have been necessary for this group of children as well.

Microlinguistically analyzed, extended and complex syntactic structures dominate in storytelling in five-year-olds. Dominance of temporal and coordinating sentence connectives opposite causal and exclusive sentence connectives show that the describing of pictures, rather than story structuring is dominant in this age group.

Six-year-olds

In comparison to two other groups of children, six-year-olds have shown significantly better results in the macrolinguistic organization of the story, and even 45% of them managed to complete one (25%) or two episodes (20%). It is significant that among this group of children there has been frequent recognition of both episodes in the story (40%), although they have problems in completing them. Four-year-olds and five-year-olds, unlike them, have rarely recognized both episodes.

The fact that the story scheme exists on the cognitive level in this group of children has also been supported by the fact that episode elements (introductory event, activities leading to the goal and outcome) have been consistently described in a little less than half of children. Besides, description of the plot situation (characters and ambience) become more frequent and present in 45% of six-year-olds, which is another confirmation that it is the story structuring, not pictures describing.

The group of six-year-olds is the only one in which we have noticed significant independence at the Comic story task. Only one question was enough to a few of the children to complete the Comic story, and it is important to mention that not many variations have been establish in these results, unlike the other two groups of children.

On the microlinguistic plan, the complexification of the linguistic units used in story structuring has been established. The average number

of sentences in the Comic story is a little lower than in the last two groups of children and it reflects the tendency of using compound sentences (parataxis and subordinate clauses). Connectives between sentences are arranged more correctly, and although temporal connectives are dominant in this group, causal connectives are more frequent, and exclusive ones appear for the first time.

Our results are in accordance with researches which show that children's storytelling is gradually developed during preschool years, showing more and more semantic complexity and diversity (Berman & Slobin, 1994; Minami, 1996). From the age of four, children's storytelling often consist of two or more events, provided that children produce them without paying attention to time sequence. The sentences produced by four-year-olds in storytelling often make sense only as individual elements of events, but they are not mutually adequately connected to form a story with all elements (Trabasso, Stein, Rodkin, Munger & Baughn, 1991).

On the other hand, five-year-olds rarely have trouble with following time sequence during storytelling. However, with this group of children storytelling often ends too early, keeping on the element they find the most important in the scope of the Comic story. Development changes in sentence formulation could be an indicator of syntactic complexity. Researches show that the children at the age of four and five start to produce adverb clauses, that is sentences, as well as the sentences inserted between parts of other sentences (Miller, 1981; Wells, 1985).

Finally, storytelling in six-year-olds is regularly structured, refers the interlocutor on "who, where and what happened" and then events in the Comic story continue to resolve with an appropriate conclusion. If a four-year-old never connects two events in the storytelling, and if a six-year-old has trouble with the time sequence, there could be a reason for timely assessment of this ability (McCabe & Rosenthal, 1994; Peterson & McCabe, 1983).

CONCLUSION

Looking at the difference in storytelling between four-year-olds, five-year-olds and six-year-olds, it is apparent that the big distinction between the three age groups occurs in the storytelling setting. Putting these results together suggests that at the age of 4 children know how to describe an introductory event, situations and activities leading to a goal in a story. At the age of 5 they are also focused on the introductory event and activities leading to the goal, but with more consistency and smaller percentage of missing elements. On the other hand, at the age of 6, in a little less than half of the children, a complete story scheme exists on a

cognitive level with a description of the introductory event, activities leading to the goal and outcome.

Development changes in sentences formulation can be an indicator of syntactic complexity and cognitive development. Storytelling in children is gradually developed during preschool years. As narration of stories enables the experts to collect a lot of linguistic data, this work represents an attempt to use a number of data given during assessment in order to select elements at the macrolinguistic and microlinguistic plans, and use their analyses in order to get an insight into the characteristics of narration of stories in preschool children.

Research of storytelling has a series of practical implications. Besides personal experiences, a significant part of narrative discourse with preschool children make the stories they make up in play and/or when they are induced by questions. Retelling personal experiences in comparison to stories that children make up results in more complete, more detailed and more organized discourse. This dissociation speaks in favor of the fact that the content they talk about has a great influence on the organization and structure of narrative discourse with children (Allen, Kertoy, Sherblom & Pettit, 1994). For structuring narrative discourse, it is very important to understand its communicative aspect. When the interlocutor has access to all or majority of information that are relevant, we can conclude that narrative discourse of the child is complete. The four-year-olds recognize that description of characters and places of the plot in a story is the way to give the interlocutor information that will help them understand the structure of discourse (Trabasso & Nickels, 1992).

In order to improve the literacy of all children, different pedagogical strategies need to be employed. Using storytelling is one way to address literacy development by improving oral language, reading comprehension, and writing. Because of the interrelated nature of the processes involved in reading and writing, storytelling is an effective pedagogical strategy that can be woven into instruction to increase children's competencies in all areas (Miller & Pennycuff, 2008).

The promotion of storytelling is an important consideration for preschool program planners. Sometimes, storytelling may be neglected in preschool programs because of a variety of reasons, including not being able to hold children's attention. Teachers can increase children's skills in many ways. For example, teachers may start storytelling by relating short, significant happenings from daily life. As children listen to the teacher's storytelling, they notice beginnings, middles and story endings. They imitate techniques using hand and body gesturing, facial expression, and vocal variation; they may even copy dramatic pause. One benefit that is fostered by storytelling is child story making. Other possible child competencies and understandings promoted by storytelling experiences in-

clude developing a sense of oral power and group inclusion (Machado, 2013).

Adults literally teach their children about beginnings, middles and endings by structuring their own narratives in an organized way (Acredolo & Goodwyn, 2000). Sharing oral stories and verbally putting daily happenings into words can be cherished for what they are - the building blocks of thinking and imagining, describing, creating, expressing ideas, and later achieving writing and reading skill (Gallas, 2003).

Through storytelling, ideas and new words are grasped quickly and easily. Storytelling may occur at almost any time during the course of the day, inside or outside. No books are necessary, but their use may focus child's attention. A picture book is the source for storytelling. Used this way, storytelling motivates interest in books. Encouraging young children to tell their stories while using pictures, photographs, or other visuals, stimulates both creative thinking and visual literacy skills.

Storytelling is an excellent way to develop speech and language in children. Children's sense of "story creator" is often incorporated into their self-concept. In preschool, it is a good idea to offer activities in which pictures are used as motivators for storytelling. Children's attempts for creating stories should not be criticized, but simply accepted. Their first storytelling attempts often lack sequence, have unclear plots, and involve long, disconnected events. As children mature and are exposed to stories, their abilities improve. The goal is to encourage a love for and positive attitude toward oral storytelling (Mathias, 2006).

The author points out that storytelling goals include: a) increasing children's enjoyment of oral language; b) making young children familiar with oral storytelling; c) increasing children's vocabulary; d) increasing children's confidence as speakers; e) increasing children's awareness of story sequence and structure; f) increasing children's story comprehension and higher level thinking skills; g) promoting oral skill, use, and expression of ideas; h) helping children gain listening skills and stimulating stimulating listener's imagination; i) extending young children's knowledge of facts and fantasy (Mathias, 2006).

Current studies encourage teachers to promote each child's oral development. Experts believe that this kind of activity primes children's inner feelings and thinking processes, and increases self-awareness and awareness of self in relation to others. It is a powerful language development approach. As many researchers are now recognizing storytelling as an effective strategy for literacy development, some have considered the needs of teachers in preparing to use this strategy by providing techniques for implementing storytelling into their practice. Choosing appropriate stories, concern about their ability to effectively tell a story, and the need to understand the purpose of storytelling in education were found to be the greatest areas of need (Agosto, 2016; Makin & Whitehead, 2004).

Many research provides illustrations of utilising storytelling as the cornerstone of an early childhood program. For many years storytelling has been forgotten in many educational environments, as our world of visual images has rapidly flourished. By granting storytelling an essential role in the education of young children, their imagination will be inspired as they create their own visual images and ideas; their minds will be challenged; and their language skills will be further cultivated, as they are inspired to experience and explore all language forms (speaking, listening, reading, and writing). Young children will also develop closer relationships and a sense of community, through the intrinsically social experience of storytelling (Phillips, 2000).

Instructions for storytelling is important for all young children, and particularly those at risk for or with language learning impairments. The primary aim of the instruction is to maximize children's receptive and expressive narration skills. Narrative development needs to begin early in the preschool period to prepare children for literacy instruction and access to the educational curriculum. For example, the written texts used in first grade for beginning reading instruction are in the narrative discourse genre and contain simple, chronologically ordered events that are linked to one another by causal and temporal connectors. Promoting narrative development, however, is not confined to young children. Older children, particularly those with communication impairments, may be functioning developmentally in the emergent literacy stage and require intervention aimed at establishing and solidifying early developing narrative comprehension and production skills.

Storytelling instruction and intervention are informed by several "best-practice" principles and guidelines (Roth, 2009):

1. *Implement and embed strategies in natural, authentic environments and interactive activities, including preschool curriculum.* Young children learn best through active exploration, meaningful experiences, and interactive participation with materials that sustain their interest. They benefit from regular opportunities to talk about what is done; active use of their narrative knowledge helps them transfer what they know to new situations. This is especially important for young children, who need to be engaged in experiences that make narration meaningful and which build on prior learning (i.e. what children already know and can do).
2. *Expose children to developmentally appropriate literature with respect to both content and complexity.* For example, children under the age of 5 years benefit most from simple linear stories that follow the activities of one main character over time, whereas older children can follow the simultaneous actions of two main characters.

3. *Consider the emotional content of books.* Five-year-old children differentiate between positive and negative emotions such as happiness and sadness, respectively, but cannot yet recognize the emotions of others, especially when the feelings are different from their own. They also have difficulty integrating more than one emotion at a time. Many books for young children, however, do not explicitly state characters' emotions, assuming that youngsters will recognize the emotion portrayed based on the situation or attributes of the character. Rather, books should be selected that make emotions explicit throughout the story line.
4. *Use discourse hierarchies.* This organizational approach involves progressing from simple to more complex genres. It also includes a gradual increase in the length of narratives introduced, addition of more actions and participants into narrative sequences, increasing the displacement of narratives in time and location, and gradually introducing mental states and motivations of characters (Norris & Hoffman, 1990).
5. *Use recounts of true, familiar events.* As children become more comfortable with the event sequence, scaffold the youngsters to gradually take over parts of the narrative, and then encourage elaboration (e.g. include new incidents, add other characters).
6. *Introduce a variety of narrative genres, including fictional and informational books.* Different genres stimulate conversations about different ideas and concepts beyond everyday experiences. Genres provide interesting and diverse content to talk and think about, increasing children's funds of background world knowledge.
7. *Choose stories that maintain interesting language patterns, a sense of cadence, and rhyme and alliterative sequences.* Sound patterns rather than words may attract and sustain children's attention to the printed page.
8. *Read aloud to children on a daily basis using shared book reading.* These reading strategies promote the development of story knowledge. It is through repeated exposure to stories that children begin to internalize a framework for understanding and generating narrative sequences (Westby, 1991).
9. *Embed vocabulary instruction in narrative activities.* The narrative context provides natural opportunities to introduce new vocabulary words and strengthen familiar lexical items (e.g. Akhtar, Jipson, & Callanan, 2001; Tabors, Beals, & Weizman, 2001). This strategy can be particularly beneficial for young children who have difficulty learning new words and retaining the meaning of newly learned words.

10. *Select stories with well-developed plot structures.* Such stories have logical event sequences that culminate in a clear resolution. This type of literature can be used to introduce and reinforce the traditional concept of “story”; that is, a story has beginning, middle, and end portions with logically connected event sequences.
11. *Use predictable pattern books.* The repetitive themes in these stories foster both comprehension and apprehension skills. Comprehension involves understanding what you have just heard; apprehension entails predicting what’s coming next.
12. *Direct children’s attention to the printed word rather than just pictures.* This strategy supports the connection between spoken words and print forms.
13. *Engage in storytelling in addition to story reading.* Storytelling brings children into the act of story making, thereby permitting the creation of stories *with* children, not just *for* or *to* children (Trousdale, 1990).
14. *Engage in repeated storytellings rather than single readings of different books.* This rereading strategy increases participation, language output, and quality of contribution (National Reading Panel, 2000).
15. *Choose the appropriate reading style.* Different styles are more conducive to different language levels. For example, children with strong receptive vocabularies benefit from a higher demanding “performance-oriented” style, in which the reader provides plentiful commentary before and after an uninterrupted story reading. Children with sparser receptive vocabularies profit from a “describer style,” a less demanding mode that involves labeling and describing pictures during book sharing.
16. *Use a variety of scaffolding techniques to provide children with predictable verbal and nonverbal narrative language and instructional feedback.* One specific example is PEER. PEER is based on Ninio and Bruner’s (1978) storybook reading routine and involves the following sequence of activities: P = Parent/adult initiates exchange about book; E = Evaluates child’s response; E = Expands child’s response; R = Repeats initial question to check comprehension.
17. *Provide specific suggestions to parents and other family members.* Sharing information with parents and caregivers can reinforce adult–child interactions and offer school-based professionals opportunities to scaffold these interactions.

The three-stage instructional model of Snow, Burns, and Griffin (1998) is ideal for narrative intervention with young children. The three stages include (1) explicit instruction, during which models of correct

performance are provided, elicited, and reinforced; (2) guided practice, where children try out their newly learned behaviors with scaffolding from an adult (e.g., teacher, SLP, parent); and (3) independent practice, during which children work on their own.

More needs to be done with the issue of when children begin to know that a good story includes a conflict or problem, and how this interacts with models of narration abilities development. Similarly, we need more research on the kinds of supports that help children in this area.

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APPENDIX

Structure of the story about the Snowman formed according to the model of analysed story

<i>Story structure</i>	<i>The first episode</i>	<i>The second episode</i>
<i>Situation</i>	<ul style="list-style-type: none"> ▪ Once upon a time there was a little girl ▪ She was in her bedroom 	
<i>Episode</i>		
<i>Introductory event</i>	<ul style="list-style-type: none"> ▪ She looked through the window ▪ She saw it was snowing outside 	<ul style="list-style-type: none"> ▪ She saw the sun was shing outside ▪ She woke up ▪ She wanted to see what had happened to the Snowman
<i>Reaction to introductory event</i>	<ul style="list-style-type: none"> ▪ She was happy for that. ▪ She wanted to play in the snow 	<ul style="list-style-type: none"> ▪ The Snowman was sad
<i>Activity</i>	<ul style="list-style-type: none"> ▪ She went out ▪ She got dressed ▪ She started to make a Snowman. 	<ul style="list-style-type: none"> ▪ She got out of bed ▪ She looked through the window
<i>Outcome</i>	<ul style="list-style-type: none"> ▪ Her dad and brother/family/friends helped her make a Snowman ▪ The Snowman was made 	<ul style="list-style-type: none"> ▪ She saw that the Snowman was melting because of hot sun
<i>Reactions to outcome</i>	<ul style="list-style-type: none"> ▪ She was happy for that. 	<ul style="list-style-type: none"> ▪ She was sad for that

Note: The Appendix contains examples of transcribed statement that could be coded as elements of the Comic Story analysis. Both episodes begin in the girl's bedroom, which is the reason why the situation as element of the story was not emphasized in the second episode

НАРАТИВНА КОМПЕТЕНТНОСТ: ПРЕЛИМИНАРНА СТУДИЈА ПРИПОВЕДАЊА ПРИЧЕ КОД ДЕЦЕ ПРЕДШКОЛСКОГ УЗРАСТА

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Резиме

Структура наративног дискурса може се описати на микролингвистичком и макролингвистичком плану. Микролингвистичка структура се описује кроз синтагме и реченице којима се прича реализује, као и заменице, везнике и друге лингвистичке маркере којима се делови приче повезују. Адекватна употреба ових лингвистичких елемената чини испричану причу кохезивном. Макролингвистичка структура превазилази ниво реченице. Неки аутори макролингвистичку структуру приказују кроз епизоде као логичке јединице, међу којима постоје временски и узрочно-последични односи.

Циљ овог истраживања је био да се од мноштва података добијених проценом наративног дискурса издвоје елементи на макролингвистичком и микролингвистичком плану и њиховом анализом добије увид у карактеристике приповедања приче код деце предшколског узраста. Истраживањем је обухваћено 60 деце, од чега 29 (48%) девојчица и 31 (52%) дечак. Узорак истраживања чинила су деца узраста од четири, пет и шест година. Карактеристике приповедања приче на макролингвистичком и микролингвистичком плану процењене су применом задатка Стрип прича (Костић, Владисављевић & Поповић, 1983).

Резултати анализе структуре приче на макролингвистичком плану су показали да је фокус код четворогодишњака и петогодишњака на описивању уводног догађаја и активности које воде ка циљу. Обе групе деце нису показале изразиту самосталност у структурирању приче, будући да су била неопходна питања од стране испитивача која би подстакла развој дискурса. Насупрот томе, код шестогодишње деце образац приче постоји на сазнајном нивоу, с обзиром да су елементи приче доследно описани код већег броја деце. Резултати корелационе анализе су показали да постоји статистички значајна негативна корелација између узраста деце и броја питања које испитивач поставља као помоћ деци да допуне причу ($r=-0,47$; $p<0,05$).

Анализом резултата микролингвистичке структуре приче утврђено је да приче четворогодишњака предоминантно садрже просте реченице, док просто-проширене и зависно-сложене синтаксичке конструкције доминирају у наративном дискурсу петогодишњака. За разлику од њих, у групи шестогодишњака је присутна тенденција коришћења сложених (напоредних, зависних) реченица. Када су у питању лексичко-семантичке способности, резултати указују на статистички значајне разлике у укупном броју речи које деца продукују на задатку приповедања приче у корист старије деце, при чему се узрастом објашњава 47%

варијансе постигнућа на овом задатку ($F=24,87$; $df=2$; $p=0,01$; $\eta^2=0,47$). Приповедање приче код деце постепено се развија током предшколског периода, а савети о подстицају развоја ове способности су важни за сву децу, посебно за децу са присуством ризико-фактора на рођењу или децу са дефицитима у развоју говора и језика.

DISTANCE TEACHING OF CHEMISTRY DURING THE COVID-19 PANDEMIC: CHALLENGES AND SOLUTIONS^a

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Abstract

The aim of this paper was to examine the opinion of chemistry teachers on distance learning realized during the COVID-19 pandemic in the period from March 17 to June 15, 2020. The sample includes 75 primary and secondary school chemistry teachers. The results show that the third of teachers and students followed the teaching contents in chemistry that were broadcast on the channels of the Public Media Service of Serbia. Most teachers realized distance learning using the Google classroom, using teaching materials that they created in the form of presentations, videos and tests, while communication with students and parents was mostly reduced to Viber and social networks. Chemistry teachers had difficulties during the planning and preparation of teaching materials, but also during the assessment which, in the opinion of most teachers, was not objective. The paper presents the suggestions of teachers in order to improve the assessment process. The general attitude and satisfaction of chemistry teachers about the realized teaching is divided - while some teachers are very satisfied, others are dissatisfied. Chemistry teachers have clearly pointed out the need for professional training in the field of making materials for distance learning, working with software and platforms for the implementation of teaching itself, but also in the field of methodological training and preparation for distance learning.

Key words: chemistry teaching, teacher opinions, Covid-19, assessment, distance learning

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НАСТАВА ХЕМИЈЕ НА ДАЉИНУ ТОКОМ ПАНДЕМИЈЕ КОВИД-19 – ИЗАЗОВИ И РЕШЕЊА

Апстракт

Циљ овог рада био је испитивање мишљења наставника хемије о настави на даљину реализованој током пандемије ковид-19 у периоду од 17. марта до 15. јуна 2020. године. У истраживању је учествовало 75 наставника хемије основних и средњих школа. Резултати су показали да је трећина наставника и ученика пратило наставне садржаје из хемије који су емитовани на каналима Јавног медијског сервиса Србије. Највише наставника је реализовало наставу на даљину користећи Гугл учионицу и примењујући наставне материјале које су сами израђивали у форми презентација, видео материјала и тестова док је комуникација са ученицима и родитељима у највећој мери сведена на Вибер и друштвене мреже. Наставници хемије су имали потешкоће током планирања и припреме наставних материјала, али и током оцењивања које, по мишљењу већине наставника, није било објективно. У раду су приказани предлози наставника како би се могао побољшати процес оцењивања. Генерални став и задовољство наставника хемије о реализованој настави је подељено – док је део наставника веома задовољан, други део је незадовољан. Наставници хемије су јасно указали на потребу за стручним усавршавањем у области израде материјала за потребе наставе на даљину, рада са софтверима и платформама за реализацију саме наставе али и у области методичке обуке и припреме за наставу на даљину.

Кључне речи: настава хемије, мишљења наставника, ковид-19, оцењивање, настава на даљину

INTRODUCTION

The outbreak of the coronavirus virus in 2019, which quickly turned into a global pandemic of Covid-19, had a serious impact on education. Many countries closed schools, colleges and universities as one way to protect the population from possible disease risks. During the pandemic, different countries around the world introduced different solutions to continue the education process.

Broadcasting of teaching content on television channels that reach the largest number of students with the use of online libraries, online channels and video lectures has been applied in at least 96 countries around the world (Basilaia & Kvavadze, 2020). Some innovative solutions have been proposed for distance learning, such as the flipped classroom, asking online questions, video conferencing instead of live lectures, using simulations and videos (Chick, et al., 2020). In some countries, distance learning has been implemented using a synchronous strategy, which includes asking questions and giving answers in real time, and an asynchronous strategy, which includes presentations with audio recordings, tests and tasks (Villanueva et al., 2020). Obviously, the availability of digital tools, devices, and virtual programs, as well as previous experiences and teacher training to implement distance learning pro-

grams, were a great help during the Covid-19 pandemic (Dominici, 2020).

The scientific literature dealing with distance learning during the Covid-19 pandemic is growing daily. Different authors present their experiences and the experiences of others in order to provide the most comprehensive solutions for the most effective online teaching.

Teaching in Serbia during the Covid-19 Pandemic

In the Republic of Serbia, as in most countries around the world, teaching during the emergency situation caused by the Covid-19 pandemic was realized by broadcasting teaching content on the channels of the Public Broadcasting Service of Serbia. In this way, continuity in student education was ensured. Lectures were recorded and classes were taught for primary and secondary school students, including classes prepared for the final exam, as well as classes dedicated to the analysis of tasks within the self-assessment of knowledge and the trial final exam. Classes were broadcast according to a predetermined schedule for the first and second cycles, and each class lasted from 25 to 30 minutes (Ministry of Education, Science and Technological Development of Republic of Serbia, 2020).

The classes were recorded following the curricula of a given course, prepared by the Institute for the Advancement of Education, as the institution responsible for the preparation of curricula and syllabi. Distance learning was conceived as a combination of TV teaching, interaction of teachers and students through different platforms and the applications and independent learning of students. So, simultaneously with the broadcasting of the teaching content on television channels, the schools organized distance learning educational activities for their students in accordance with the instructions of the Ministry. At the *mojaskola.gov.rs*, the national platform for online learning was established, which followed the classes broadcast on RTS and where interactive tests were introduced (Ministry of Education, Science and Technological Development of Republic of Serbia, 2020).

Chemistry Education during the Covid-19 Pandemic

The implementation of chemistry teaching during the Covid-19 pandemic presents a unique challenge to teachers due to the nature of the subject itself. In chemistry, experiment is the basic form of cognition and, as such, it is an indispensable form of learning and teaching chemistry, regardless of the way in which the teaching is organized. Some authors suggested that students should be offered experiments that can be performed at home, using only safe household items and substances, without special equipment. (Andrews et al., 2020; Selco, 2020). Andrews et al.

(2020) designed school experiments in general chemistry that include content on pH, buffers, acid-base titrations, solubility, chemical equilibrium and thermodynamics.

Although there is no substitute for experiential learning, the application of virtual laboratories is an effective way to alleviate the shortcomings of online chemistry teaching. Moreover, the use of virtual laboratories overcomes some of the problems that students and teachers face during experimental work, for example working with toxic substances, very expensive substances, performing experiments that are time consuming, that require special equipment, etc. (Tüysüz, 2010). Examples of virtual laboratories and the possibility of their application are described in numerous papers (Boschmann, 2003; Holden, & Kurtz, 2001; Dalgarno et al., 2009; Tüysüz, 2010; Tatli, & Ayas, 2013). A significant fact and limiting factor for many chemistry teachers from Serbia is that most of the interactive tools and software related to virtual chemistry laboratories and chemical simulations are in English.

At the time of the Covid-19 pandemic, there were a number of free resources available on several websites. Many of them were provided by the American Chemical Society, Department of Chemical Education (Dominici, 2020). The same association launched a special issue of the *Journal of Chemical Education* with the aim of sharing best practices in chemical education on distance learning and teaching during the state of emergency (Holme, 2020). Other associations, such as the Royal Society of Chemistry of the UK and the Italian Chemical Society have also started exchanging experiences from the chemical laboratory and free resources for online teaching (Dominici, 2020).

In order to find the best solution for online chemistry teaching, synchronous, asynchronous or combined strategies were applied (Dominici, 2020; Villanueva et al. 2020; Sunasee, 2020). Chemistry teachers in high schools and universities mostly used the synchronous strategy and applied video lessons that they mostly prepared themselves, without the help and cooperation of other teachers, schools or the university system. Most of these activities were realized on learning platforms, such as Moodle, or on web pages designed for video conferencing (Google Meet, Microsoft Teams, Zoom, Skype, etc.) (Dominici, 2020).

Research examining the effectiveness of teaching materials in online teaching of analytical chemistry has shown that, during the delivery of the synchronous face-to-face lessons, the main weakness of this strategy was the lack of a good Internet connection. On the other hand, asynchronous lessons did not require a very good Internet connections and students were able to stop the lessons and continue learning later. However, the lack of interaction between students and teachers was the main problem of this type of communication. Most teachers pointed out that the combination of synchronous and asynchronous forms of commu-

nication is desirable for analytical chemistry classes from the application of any of them separately (Villanueva et al. 2020).

Sudden change in the way of teaching and the transition to distance teaching required teachers to quickly acquire new knowledge. As a result, there has been an exponential increase in the exchange of experiences between teacher groups on social media, which has generated thousands of posts and comments on ways to adapt chemistry teaching for distance learning (DeKorver, Chaney, & Herrington, 2020). Many chemistry teachers began to record and share their own video lessons, videos of practical work and laboratory experience, performed at home using common materials from everyday life (Dominici, 2020).

In the paper by Pearson (2002), the authors examined the use of crossword puzzles after a distance lecture during the Covid-19 pandemic to help revise chemistry material in first- and second-year students. The results showed that students accepted crossword puzzles as a form of active learning, that they found them useful and that it was desirable to apply them more in teaching (Pearson, 2020).

Knowledge assessment during distance learning is a special challenge that includes the creation of tests or other forms of knowledge testing, as well as the implementation of the assessment process itself. The results so far show that the possibility of cheating on tests can be reduced if a series of steps are taken. First, the knowledge test needs to be conducted at a scheduled time with limited duration. In this manner, if the students communicate with each other, the time for completing the assignments is reduced. Secondly, repositories of questions should be made with variants of similar questions in order for the tests to be different for each student. Furthermore, it is necessary to apply appropriate remote assessment software, for example Proctorio9 which makes a video of each student, indicates suspicious behavior and prevents the opening of multiple windows and browsers (Lewis, 2020).

Based on the review of available literature, different efforts of teachers to find the most efficient way to implement distance learning and assessment of acquired knowledge can be noticed. This paper aims to show how chemistry teachers in Serbia have implemented distance learning and assessment, what problems and challenges they have encountered, what has been done successfully and what could be improved.

METHODOLOGY

After the closure of schools with the aim of preventing the spread of the coronavirus, distance learning was a way to provide students with continuity of education. However, little is known about the effectiveness of such teaching, the challenges faced by teachers and students, as well as their parents. The research was conducted with the aim of examining the

opinions of chemistry teachers about distance learning realized during the Covid-19 pandemic. The conducted research included the following specific research goals:

1. to examine which teaching materials and software were used by teachers during distance learning.
2. to examine how teachers prepared for distance learning.
3. to examine how teachers communicated with students and other teachers.
4. to examine opinions of teachers on student assessment during distance learning.
5. to examine opinions of teachers about their online teaching competencies and need for professional development.
6. to examine opinions of teachers on how satisfied they and their students are with the realized distance learning.

Participants and Procedure

The study involved the total of 75 chemistry teachers with work experience in schools from 1 to 25 years ($M = 14.72$, $SD = 4.44$), employed in primary schools, high schools or secondary vocational schools. Most teachers were from the territory of Vojvodina. The sample consisted of 13.5% of male respondents, and 86.5% of female respondents, and the remaining 13.5% of respondents did not want to declare their gender identity. The survey was conducted online using a Google questionnaire during June 2020. Participants completed the questionnaire voluntarily and anonymously. At the beginning of the questionnaire, they were informed about the purpose of the research and the possibility to give up further participation in the research at any time.

Instrument

For the purpose of this research, a questionnaire was constructed. It contained 28 questions given in the form of multiple-choice questions with the possibility of adding explanations and other information to the answers. This form of questionnaire was chosen in order to have a more comprehensive view of the teachers' opinions and problems they encountered during distance learning.

RESULTS AND DISCUSSION

Teaching Materials and Software Applied during Distance Learning

As a part of the first research goal, it was examined to what extent chemistry teachers and students followed chemistry classes that were broadcast on the channels of the Public Media Service - RTS channel 2, RTS channel 3 and RTS Planet in the period from March 17 to June 15,

2020. Almost a third of the teachers included in this research (32.4%) stated that students regularly attended these classes, 39.2% of teachers believe that students did not follow this content, while the remaining teachers (28.4%) said that they did not know. Most of the surveyed teachers also watched the broadcast classes (41.9% regularly and 48.6% occasionally). There is an agreement among teachers that this form of teaching is not enough for students to fully understand the material on chemistry (95.9%). This result is expected and justified because distance learning is designed as a combination of TV teaching, interaction between teachers and students through different platforms and applications and independent learning of students (Ministry of Education, Science and Technological Development of Republic of Serbia, 2020).

The majority of teachers (83.8%) pointed out the problem of inconsistency between teaching units broadcast on television and their operational work plans. More than half of the teachers (62.2%) pointed out that the pace of the broadcast classes was too fast and there was not enough time to practice, repeat and review. One of the problems that caused the inconsistency of the broadcast shows with the operational plans of teachers is very objective - the broadcast shows were intended for students from all of the Republic of Serbia, and the work calendars for Vojvodina and the rest of Serbia differ. This reason was stated by 21.6% of surveyed teachers. Although the curriculum that was recorded was in accordance with the programs of teaching and learning a certain subject, certain changes had to exist, since the classes ended earlier than the planned end of the school year 2019/2020 (Ministry of Education, Science and Technological Development of Republic of Serbia, 2020).

Different authors define the concept of distance learning in different ways. Common to all definitions is that some form of teaching takes place between two parties (instructors and students) and it takes place in different places and/or at different times using different teaching materials (Moore, Dickson-Deane, & Galyen, 2011). Therefore, this research examined which teaching materials were used by chemistry teachers and how they were distributed to students during distance learning.

Half of the teachers (50%) used materials they made themselves. A smaller part of teachers used materials from RTS Planet and materials they downloaded from the Internet (22.2%), while the smallest number of teachers (5.6%) used materials obtained from colleagues. Chemistry teachers stated that they, among the different types of teaching materials, mostly used presentations, video materials and tests. They used text documents, sound recordings and screencasts to a lesser extent, while podcasts, images, diagrams and charts were used the least. They also did little to refer students to online content such as YouTube videos and the like (Figure 1).

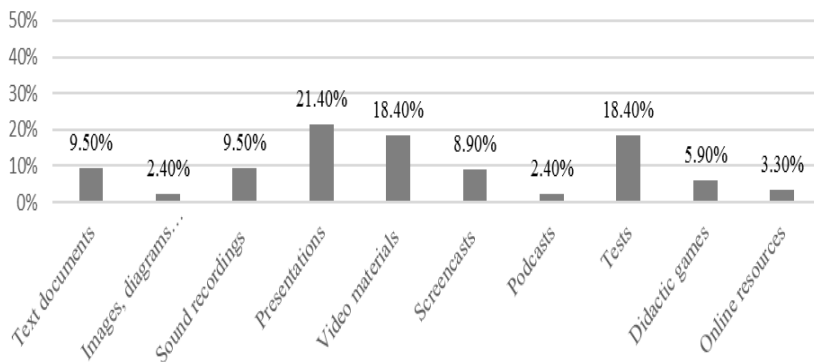


Figure 1. Teaching materials used during distance teaching

Most teachers used the Google classroom during distance teaching, which is one of the best platforms of its kind since it allows participants to communicate with each other, watch presentations, videos, communicate with other participants and be engaged in various activities (Iftakhar, 2016). A small number of teachers (2.7%) used Edmodo while only 1.4% applied Microsoft Teams, Viber, Socrative, etc. An interesting result is that 9.5% of teachers stated that they did not use any platform or application in distance teaching (Figure 2). The question remains as to how they implemented distance learning.

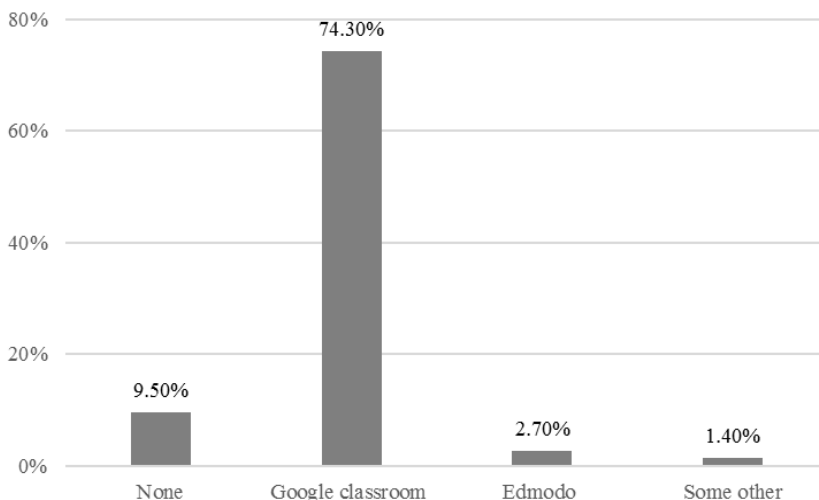


Figure 2. Platforms applied in distance teaching

Based on these results, it can be concluded that chemistry teachers in the Republic of Serbia moderately used platforms intended for distance

learning in comparison to the chemistry teachers in other countries who realized most of their activities on learning platforms such as Moodle or on websites designed for video conferencing (Google Meet, Microsoft Teams, Zoom, Skype etc.) (Dominici, 2020).

Examining the Way Teachers Prepared for Distance Learning

The second research task was to examine the teachers' ways to prepare themselves for distance teaching. Within this task, teachers were asked about the time invested in preparation and activities they undertook. Most teachers (81.1%) needed more time to prepare and teach at distance than to prepare and teach regular classes. Only 1.4% of teachers estimated that they needed less time for distance teaching, while the rest of the teachers (17.5%) estimated that they needed equal time for preparation for both regular and online classes.

During the preparation for distance teaching, teachers faced numerous difficulties (Figure 3). The majority of teachers (42.2%) stated that they had difficulties in time-planning lessons because students were not included in the discussion. About 20% of the surveyed teachers stated that the problems in the preparation of materials and the time for their preparation are the result of their (in)experience in making materials for distance learning. In 14.4% of teachers, difficulties arose in determining the amount of material for presentation during distance learning. The remaining 21.1% of teachers gave some other reasons to argue their answers regarding the time required for preparation.

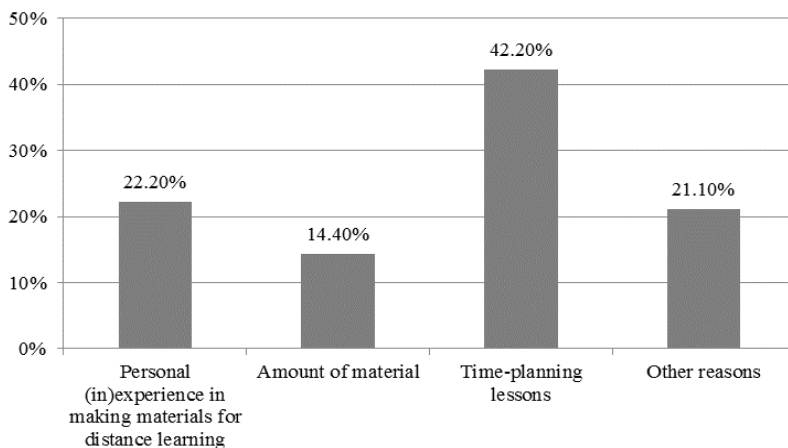


Figure 3. Difficulties in developing teaching materials for distance learning

These answers could be summarized as follows: teachers were preparing materials for distance learning for the first time so they needed

a lot of time, materials had to be detailed, and a special problem was the development of materials for students attending classes according to individualized educational plans (IEP-1 and IEP -2).

Examining the way Teachers Communicated with Colleagues, Students and their Parents

Cooperation between students during distance learning should not be overlooked. If the teacher only distributes certain materials, sends assignments to students and evaluates their answers in a longer period of time, and there is no possibility of interaction between students, online teaching loses quality, significance and purpose (Sorak, 2020). Therefore, one of the research tasks was to examine the ways in which teachers communicated with students, colleagues and their parents. The obtained answers are shown in Figure 4.

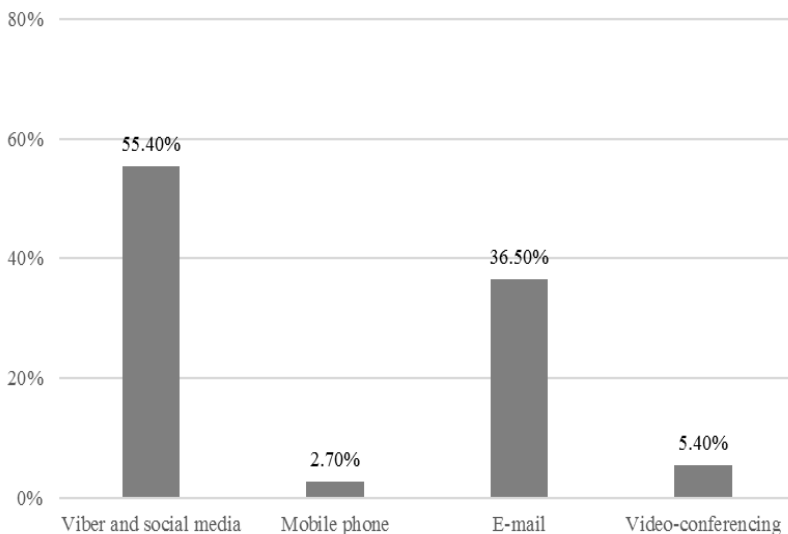


Figure 4. Means of communication of chemistry teachers with students and their parents

The obtained results show that more than half of the teachers communicated with students and their parents via Viber and social networks, followed by e-mail, video conferencing and telephone.

Young people spend a lot of time using social media as the primary means of communication and electronic socialization (Golder, Wilkinson, & Huberman, 2007), and during the pandemic there is an exponential growth of groups and exchange of experiences between them. Thanks to the Internet and social media, the unusual situation in which teachers

found themselves contributed to the creation of a “virtual community of chemistry teachers” (Dominici, 2020). Therefore, the next question in the questionnaire referred to the membership of the respondents in one of the groups on social networks that bring together chemistry teachers. Although as many as 74.3% of teachers were members of at least one of these groups, only 33.8% of teachers stated that they exchanged experiences and teaching materials with other members. Regardless of whether they were members of groups on social networks or not, the opinion of the majority of teachers (68.9%) is that the exchange of experiences and opinions helped them resolve doubts and the exchange of teaching materials.

Examining Opinions of Teachers on Student Assessment during Distance Learning

One of the important challenges of distance learning is how to implement the assessment process. Teachers make great efforts to find the most effective ways to assess knowledge of their students and suggest different steps to reduce the possibility of cheating during assessment (Lewis, 2020). The fourth research task was to examine opinions on how assessment was organized during distance learning. This task was realized through three questions. The first question referred to the activities that the teachers assigned, which they evaluated and graded. The largest number of teachers (32.6%) gave assignments to students in the form of homework in which students solved tasks (arithmetic, essay, etc.) and sent solutions to the teacher. Also, teachers used interactive tests (e.g. Google questionnaire and similar tests) when assessing students – these tests were used by 19.1% of respondents. A slightly smaller number of surveyed teachers (17.7%) applied the tests in written form (in Word format, etc.) which was filled in by students and sent to the teacher. Teachers used the group assignments and projects to a lesser extent (14% and 9.3%, respectively). Only 5.1% of the surveyed teachers applied oral examination through live meetings. A small number of teachers (2.3%) evaluated other forms of student activities, such as making PowerPoint presentations and other student presentations of learned content, performing experiments at home and didactic games.

Next, the opinion of the teachers on whether the assessment in the applied distance teaching was objective enough was examined (Figure 5). Only an extremely small number of surveyed teachers (2.7%) believe that assessment was objective, while the majority (79.7%) believe that it was not objective, because most students use the help of others (parents, friends, learning materials) in solving problems and tests. The remaining 17.6% were not sure to what extent the assessment was objective. The questions in the survey were designed in such a way that the teachers had the opportunity to append their answer, comment, write opinions and/or

suggestions. When it came to objectivity and the application of different assessment tools, one teacher said, “*What d**n test! It’s pure copying, even teachers – my colleagues, call me to help their children.*”

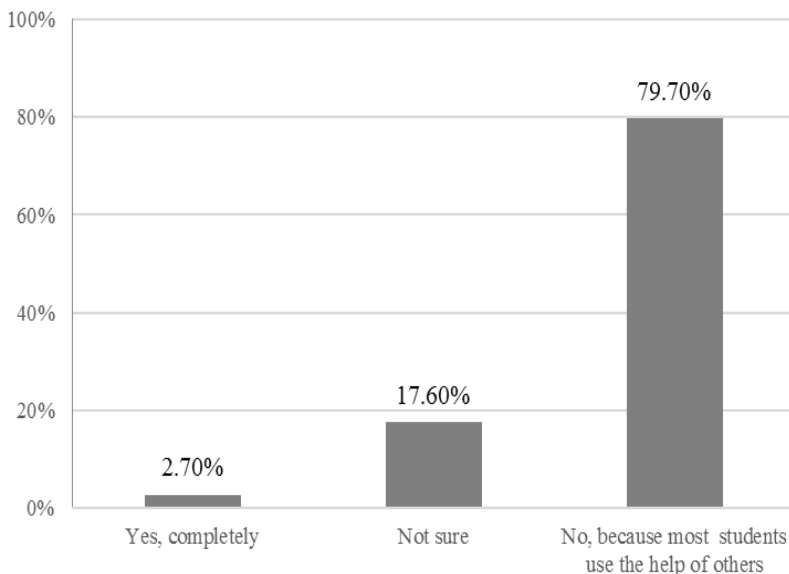


Figure 5 Teachers’ opinion on the objectivity of online assessment

In the third question of this segment, teachers suggested ways to overcome the problem of assessment during distance learning. The largest number of teachers (22.4%) stated that it might be the creation of personalized tasks, different for each student. Almost the same number of teachers (13.1 and 12.2%) believe that the use of software to generate different tests for each student from the question database and the use of time-limited tests would also contribute to more efficient and objective assessment of students during distance learning. One study confirmed that combining time-limited tests obtained from a question bank with the use of adequate distance assessment software reduces the possibility of student manipulation (Lewis, 2020).

The surveyed teachers mentioned writing essays or longer answers to questions (9.6%), assigning problem tasks (6.4%) and writing projects/essays (3.5%) as possible solutions. Only 1.6% of teachers believe that oral examination using video technology could overcome the problems related to assessment.

Examining Teachers' Opinions on their Teaching Competencies and Need for Professional Development

Teacher competencies are essential for the integration of ICT in teaching. Teachers make decisions on the forms of ICT they use and the manner of their implementation in the teaching practice. There is evidence that teachers use ICT more to prepare for class than they do in class (Suárez-Rodríguez et al., 2018). Digital competencies are necessary for the implementation of distance learning in all stages, from the preparation of instructional materials, teaching itself, communication with students and parents, to assessment.

Based on 3 questions, this research examined how teachers perceive their own competencies for distance teaching and whether they have the need for professional development in the field of making materials for distance learning and the teaching process. These results are very important because previous experiences and competencies of teachers, in addition to the availability of digital tools, are very important for the quality of distance learning (Dominici, 2020). Teachers were asked to assess their skills in making different forms of teaching materials (on a scale of 1-5). The results showed that they are best skilled in making textual materials in MS Word, and making presentations and tests, while the self-assessments of teachers' skills to create other forms of teaching materials were uniform and low (Figure 6).

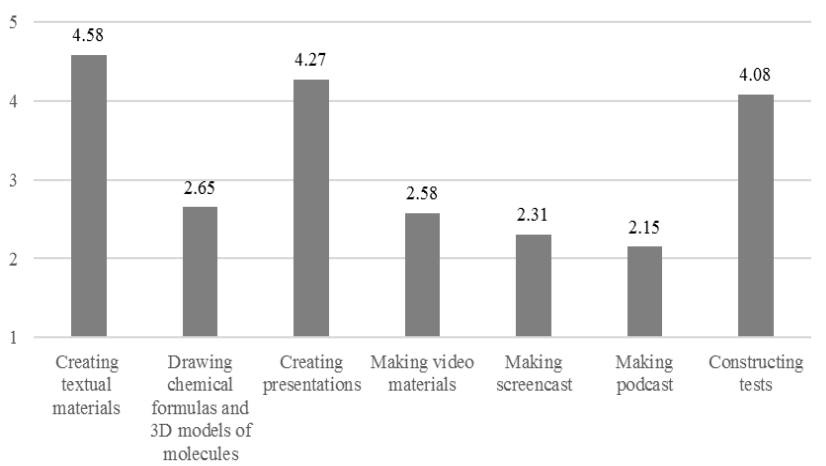


Figure 6. Self-assessment of the teachers' competencies and skills in making teaching materials

There is a clear connection between the selection and application of teaching materials that teachers used during distance learning and self-assessment of their skills to produce these materials. Respondents mostly

chose to make those teaching materials for the production of which they have more knowledge and skills. The connection is obvious in all teaching materials except for the application of educational movies and the skills for their production. It was noted that many teachers stated they had used educational video-clips but that their skill to make and edit them was inadequate. This result is justified taking into account the fact that most textbooks are accompanied by a CD with recorded experiments.

The next question examined whether chemistry teachers had the habit of using the same platforms and applications they used during distance learning (e.g. Google Classroom, Edmodo, Microsoft Teams, Socrative) in the period before schools were closed. Most teachers (86.5%) had never used any of the platforms before, but had to learn them for teaching purposes.

The need of teachers for professional development in terms of methodological training for distance learning (how to plan content, how to write teaching scenarios for the classes, how to assess students, how to work with students who follow IEPs, etc.) and in terms of training for using programs for the creation of teaching materials and platforms for conducting such teaching (Figure 7) is such that more than half of the teachers believe that they need additional training in all examined segments.

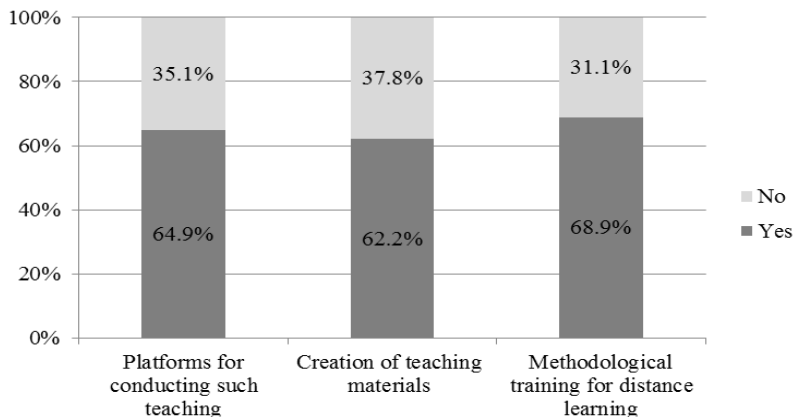


Figure 7. The need for professional development of teachers in different segments of distance learning process

Examining Opinions on the Satisfaction of Teachers and Students with the Realized Distance Teaching

At the end of the questionnaire, teachers were asked for their general attitude to distance learning. Obtained results (Figure 8) show that teachers are ambiguous on this matter. 29.7% of teachers have a generally positive attitude, while a slightly higher number of teachers (37.8%) has a

generally negative attitude. One third of teachers (32.4%) have not formed an attitude towards distance learning. Less than a third of teachers (27%) are of the opinion that students like this type of teaching, while 24.3% of them think that they do not like it. 36.5% of teachers think that students have neither positive nor negative opinions. As many as 12.2% of teachers stated that they did not know what their students think because they have not even asked them about their experiences and opinions.

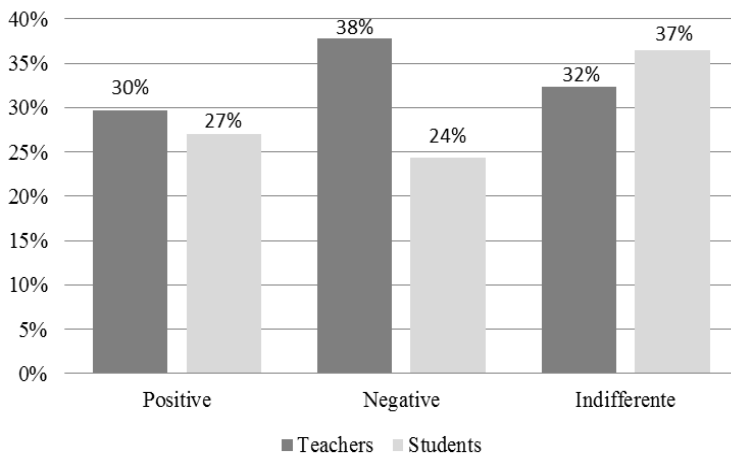


Figure 8. Attitudes of teachers and their students about distance learning

When asked about what the most difficult part for them was during distance learning, teachers answered that they had issues with not having contact with students (35.3%), with explaining abstract content without live contact with them (32.6%) and with having no feedback on the efficiency of their own work (24.5%).

CONCLUSION

The aim of this paper was to examine the opinions of chemistry teachers about distance learning realized during the Covid-19 pandemic. In this way, information is provided on how chemistry teachers have implemented distance learning and knowledge assessment, what has been done successfully and what could be improved.

A third of teachers reported that during the school closure in the period from March 17 to June 15, 2020, their students followed the teaching content that was broadcasted on the channels of the Public Broadcasting Service of Serbia. In addition, the majority of teachers implemented online teaching using the Google classroom platform. Digital learning materials that teachers created were most often presentations, videos, and

online tests. Communication with students and parents was primarily via Viber and social networks.

Distance teaching of chemistry raised several questions. Most teachers had issues with the time available for the preparation and realization of distance learning compared to preparing and conducting regular classes. The difficulties that arose during the planning of the class were the consequence of their inexperience in making materials for distance teaching and the lack of interaction with students. As a big problem in distance teaching, chemistry teachers singled out the assessment process. Although they had different approaches to assessment and applied a wide range of activities, such as homework, student presentations, tests, questionnaires, etc., they agreed that assessment was not objective enough. They listed some of the suggestions so that the evaluation process could be improved, e.g. creating a question bank, limiting test time, or differentiating tasks for each student.

Chemistry teachers have clearly indicated the need for professional development in the field of digital teaching materials for distance learning, working with software and platforms for teaching, but also in the field of methodological training and preparation for such teaching. General attitude and satisfaction of chemistry teachers about the realized teaching was divided - an equal number of teachers were either very satisfied or dissatisfied. Their perception of student satisfaction is similar.

The significance of this research is manifold. The results of retrospective studies such as this can create hypotheses about the most efficient platforms and forms of assessment in chemistry and can be used to initiate innovations in teaching. Such results are crucial for educators to implement in their teaching process. The results provide relevant information to the Ministry of Education, Science and Technological Development and the Institute for Improvement of Education, for the evaluation of the teaching process, and based on the presented results that can strengthen support to schools and teachers in various segments (training, technical support, equipment purchase, etc.). Also, the results of this investigation are very important for further research in the field of chemical education because they provide a basis for further research not only in this field, but for education in general.

Finally, the results should be seen in the context of certain limitations of the presented research. The research was conducted on a convenient sample of chemistry teachers with whom a successful cooperation was achieved previously. In addition, self-assessment scales were used that may be influenced by current mood or wish of teachers to give a desirable response and thus convey a good impression of their abilities and competencies. These problems potentially limit the possibilities to generalize results. In future research, it would be desirable to observe the teaching process of chemistry during distance learning from the perception of students.

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НАСТАВА ХЕМИЈЕ НА ДАЉИНУ ТОКОМ ПАНДЕМИЈЕ КОВИД-19 – ИЗАЗОВИ И РЕШЕЊА

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Резиме

У Републици Србији је, као и у већини земаља широм света, настава током ванредног стања изазваног пандемијом ковид-19 реализована емитовањем наставних садржаја на каналима Јавног сервиса Србије. На овај начин је обезбеђен континуитет у образовању ученика. Предавања су снимана и емитовани су часови наставе за ученике основних и средњих школа. Настава на даљину је замишљена као комбиновање ТВ наставе, интеракције наставника и ученика кроз различите платформе и апликације и самостално учење ученика.

Реализација наставе хемије током пандемије ковид-19 представља јединствен изазов наставницима због природе самог предмета. Овај рад је осмишљен тако да прикаже како су наставници хемије реализовали наставу на даљину у периоду од 17. марта до 15. јуна 2020. године, са којим проблемима и изазовима су се срели, шта је успешно урађено и шта би се могло побољшати. У истраживању је учествовало 75 наставника хемије основних и средњих школа. Резултати су показали да је трећина наставника и ученика пратило наставне садржаје из хемије који су емитовани на каналима Јавног медијског сервиса Србије. Највише

наставника је реализовало наставу на даљину користећи Гугл учионицу и примењујући наставне материјале које су сами израђивали у форми презентација, видео-материјала и тестова, док је комуникација с ученицима и родитељима у највећој мери сведена на Вибер и друштвене мреже. Наставници хемије су имали потешкоће током планирања и припреме наставних материјала, али и током оцењивања, које по мишљењу већине наставника није било објективно. Према мишљењу наставника постоји неколико начина за превазилажење проблема с оцењивањем: израда персонализованих задатака, коришћење софтвера за генерисање различитих тестова за сваког ученика из базе задатака; коришћење тестова са ограниченим временом за израду, писање есеја/дужих одговора на питања, задавање проблемских задатака и израда пројеката/ радова. Генерални став и задовољство наставника хемије о реализованој настави је подељено – док је део наставника веома задовољан, други део је незадовољан. Наставници хемије су јасно указали на потребу за стручним усавршавањем у области израде материјала за потребе наставе на даљину, рада са софтверима и платформама за реализацију саме наставе али и у области методичке обуке и припреме за наставу на даљину.

Резултати истраживања пружају релевантне информације о платформама и облицима оцењивања у хемији, и могу се користити за покретање иновација у настави. Овакви резултати су од пресудног значаја за просветне раднике за имплементирање у свој наставни процес. Резултати пружају информације и Министарству просвете, науке и технолошког развоја као и Заводу за унапређивање васпитања и образовања, на основу којих могу да појачају подршку школама и наставницима у различитим сегментима (обуке, техничка подршке, куповине опреме, итд).

WIND INSTRUMENTS IN SERBIAN PHRASEOLOGY ^a

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Abstract

Musical instruments are integral to our folklore and tradition, so much so that some even entered the phraseology of the Serbian language, shaping the image of the world expressed by it. The paper is aimed at examining idioms containing wind instruments as their component to determine what kind of linguistic image they depict. Examination of such material in contemporary Serbian language necessitated that its corpus be borrowed from *The Phraseological Dictionary of the Serbian Language* by Đorđe Otašević (2012), both due to its year of publication, and the author's intentions to examine the contemporary standard language. Reviewing the *Dictionary*, it was established that the following wind instruments occur as phraseological components: *bagpipes*, *diple* (type of bagpipe), *duduk* (double-reed woodwind instrument), *the horn*, *svirala* (pipe or flute), *gourd* and *the fanfare*. The semantic analysis of the idioms that contain the wind instruments mentioned above has established that the generation of the phraseological meaning results in a complete or partial desemanticization. In cases of complete desemanticization, the process of generating sound, i.e. playing these instruments, is transferred to the domain of human speech, thinking and actions. The process of partial desemanticization largely occurs in idioms with a comparative structure which are used to denote human traits, states or behaviors. In both cases, phraseologisms with negative meanings dominate. This may indicate that some of the functions of these wind instruments in our past have been negatively evaluated in the collective conscious from an ethical point of view, which indicates the need for new research.

Key words: phrasemes (phraseologisms), component by which wind musical instruments are named, *Phraseological Dictionary of the Serbian Language* by Đorđe Otašević, Serbian language, lexicology

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ДУВАЧКИ МУЗИЧКИ ИНСТРУМЕНТИ У СРПСКОЈ ФРАЗЕОЛОГИЈИ

Апстракт

Музички инструменти су саставни део фолклора и обичајне традиције нашег народа, па су неки од њих ушли и у фразеологију, суделујући у обликовању слике света која је изражена у језику. У раду се истражују фразеологизми који као компоненте садрже дувачке инструменте са циљем да се утврди какву језичку слику они осликавају. Испитивање такве грађе у савременом језику условило је да њен корпус буде преузет из *Фразеолошког речника српског језика Ђорђа Оташевића*, који је и по години издања (2012.) и по намерама аутора усмерен према стандардном савременом језику. Његовим прегледом евидентирани су да се као фразеолошке компоненте јављају следећи дувачки инструменти: *гајде, диле, дудук, рог, свирала, тиква и фанфаре*. Семантичком анализом фразеолошких јединица у којима се претходно наведени дувачки инструменти јављају као компоненте утврђено је да у процесу стварања фразеолошког значења долази до потпуне или делимичне десемантизације. У случајевима потпуне десемантизације процес стварања звука, тј. свирања на овим инструментима преноси се на поље људског говора, мишљења и поступака. У процесима делимичне десемантизације реч је, најчешће, о поредбеним фразеологизмима којима се означавају људске особине, стање или понашање. И у првом и у другом случају доминирају фразеологизми са негативним значењима. То може бити показатељ да су у колективној свести са етичког становишта негативно вредноване неке од функција које су ови инструменти имали у нашој прошлости и иницира потребу нових истраживања.

Кључне речи: фразеологизми, компонента којом се именују дувачки музички инструменти, *Фразеолошки речник српског језика Ђорђа Оташевића*, српски језик, лексикологија.

INTRODUCTION

The human voice, hand clapping, tapping on various objects, hitting objects against other objects are all stages in the development of musical instruments that first started in the Paleolithic period. Percussions were the first musical instruments to appear, followed by wind instruments the original purpose of which was to create the sound people believed would drive away evil spirits, and finally, string instruments (Đekić and Pavlović, 2018). Human contemplations about instruments occurred simultaneously with the development of musical instruments, because instrumental music accompanied every segment of man's life. It is incorporated in the elements of folk tradition preserved in modern society (music features in baptisms, weddings and funerals¹), just as it used to be an integral part of numerous rituals and ceremonies in the past. The

¹ To fulfill the last wish of the deceased, brass bands usually play funeral marches, but also other pieces the dead person loved, at their funeral.

social role of musical instruments can be traced back to the arrival of our ancestors to the Balkans (Gojković, 1985), and their functions have changed simultaneously with the development of the instruments themselves. At first, they were viewed as a means of communication with the higher power, then as signal instruments, while they became "musical devices" in the true sense of the word only in their most advanced stage (Golemović, 1997: 45). Vesna Đorđević also underlines that folk instruments, apart from their musical role, also had "other roles (magical-ritualistic, signaling, practical), as demonstrated in the language itself" (Đorđević, 2014: 52).

The significance of music derives from the fact that it is always performed in the context shaped by a particular culture. Therefore, this paper will examine the linguistic picture in the contemporary Serbian language painted by phraseologisms (idioms) that contain wind instruments as their component. The choice of idioms that contain a wind instrument as a component arises from the frequency of their use with regard to other musical instruments which also occur as phraseological components. Namely, a review of the phraseological material (see Otašević, 2012) established that 12 musical instruments appear as phraseological components in the Serbian language, and that seven, or 58,33% among them are wind instruments.

PREVIOUS RESEARCH

There are not many studies in the Serbian language that examine idioms that feature musical instruments as their components. Vesna Đorđević and Nina Aksić refer to this problem, stating that "Serbian language science has not much dealt with the musical domain" nor "have musical instruments often been the subject of phraseological research" (Đorđević and Aksić, 2016: 95). The said authors examined the role and significance of folk instruments based on how these instruments are presented in the Serbian ethnographic material and phraseological stock of the Serbian "language" (see Đorđević and Aksić, 2016: 93–116), and after conducting ethnological-phraseological analysis, inferred that phraseology lacks one function of instruments that can be found in ethnographic material, i.e. "idioms that contain instruments as their component do not reflect the ritualistic-magical function associated with playing folk instruments" (Đorđević and Aksić, 2016: 111).

Other authors largely examined phraseologisms with a component that explicitly mentions musical instruments as part of a broader phraseological material with the aim of shedding some light on various issues in the field of phraseology. Thus, after conducting lexical-semantic analysis, Gordana Štrbac points out that the semantics of idioms containing verbs that refer to the activity of speech and musical instruments *kettledrum* and

bell contain an element of intent actualized as the speaker's initiative to provide a true or false information to the interlocutor (see Štrbac, 2018: 147). It should be noted that idioms with a component that explicitly names a musical instrument are also studied in ethno-anthropological literature. Examining the role of the bell in Serbian tradition, Nina Aksić provides a brief overview of the phraseological units containing a lexeme that mentions this musical instrument by name (see Aksić, 2014: 151–166). There are also a few papers that utilize comparative research of the material in Serbian and other Slavic languages to examine various issues in the field of phraseology containing a musical component, so Đorđević and Aksić point out the importance of the international monograph *Hudobné motívy vo frazeológii* (2014) written “with the aim of shedding light on the musical conceptsphere in Slavic phraseology, at least to a certain degree” (Đorđević and Aksić, 2016: 95), citing the works of Miroslav Dudok, Stefana Paunović Rodić, Svetlana Goljak, Pavel Krejčič, and Vesna Đorđević that feature prominently in it, because they examine examples from the Serbian language, among others.

A review of the aforementioned papers reveals that they examine idioms containing preselected musical instruments in a broader sense, such as the previously mentioned research of all folk instruments (see Đorđević and Aksić, 2016), or in a somewhat narrower sense, such as the research of idioms that contain the *bell*, *drum*, or *the bagpipes* as their component in the phraseology of the Serbian language and their equivalents in the Slovakian language (see Đorđević, 2014: 51–60). Finally, the study of idioms containing the *gusle* and the *violin* in the Slovenian, Croatian and Serbian language with the aim of examining intertextuality of these phraseological units (see Dudok, 2014: 61–69).

METHODOLOGICAL FRAMEWORK

The subject of research includes phraseologisms (idioms) containing explicitly named wind instruments as their component in the Serbian language, which necessitated that the corpus of material covered by research be borrowed from *The Phraseological Dictionary of the Serbian Language* (Otašević, 2012) which “primarily focuses on contemporary standard language” (Otašević, 2012: 7). The aim of the research is to determine what kind of linguistic picture such idioms depict. By linguistic picture, we mean representations contained in the language which “possess their own various aspects within the language and with regard to non-linguistic facts” (Ajdačić, 2016: 35). Such approach is based on the view of Dragana Mršević-Radović that phraseology is viewed as “one of the most important sources of the linguistic picture of the world,” because phraseological units behave “similarly to proverbs and sayings, as suita-

ble 'repositories' for various cultural content" (Mršević-Radović, 2008: 5–6).

An idiom as a composite linguistic unit is characterized by pronounced "connotative and associative semantic components" (Dragičević, 2009: 41). The unique meaning of some phraseologisms is "not based on the semantics of individual words making up the idiom," but there are phraseologisms whose overall meaning is impacted by the basic, or "a secondary meaning of its component lexemes" (Dragičević, 2010: 25). Desemanticization occurs, and it can be complete, or partial. In the case of complete desemanticization, all components of the idiom undergo a semantic transformation, whereas in partial desemanticization, only some of the components of the idiom are transformed (Filaković, 2008).

The research used semantic analysis of phraseological material and the linguocultural approach suitable for examining how cultural elements "are linguistically expressed and how they become components of the semantic structure of its units" (Štrbac, 2019: 285). It is an approach that is closely related to the ethnolinguistic and the sociolinguistic, because it "explores both historical and linguistic facts through the prism of spiritual culture" (Цзиньфэн, 2017: 387).

RESULTS AND ANALYSIS

A review of the content of *The Phraseological Dictionary of the Serbian Language* (Otašević, 2012) established that 12 musical instruments occur as phraseological components, whereby seven or 58,33% are wind instruments. These are the following instruments: *bagpipes*, *diple* (double flute), *Balkan duduk*, *horn*, *frula* (reedpipe), gourd² and the *fanfare trumpet*. They appear as a component in 25 phraseological units (idioms).³

The wind instrument that features most frequently as a component of phraseological units is the *diple* (see Table 1).

² Gourd as a musical instrument occurs as a component in three idioms.

³ The number of 25 idioms does not include the recurrence of the same idioms, which is quite common in the Dictionary. This can be seen later in this paper, in the tables where all page numbers that contain the description of the metaphoric meaning are given in the parentheses (see Tables 1–7).

Table 1. Idioms that contain *diple* as a component

Idiom	Meaning
To play (blow, strike, blast) into a different (separate) <i>diple</i> (flute)	<i>To take a different position, change one's attitude</i> (Otašević, 2012: 210, 245, 246, 250, 309, 773, 800, 944, 948).
To play (strike, blow, blast) into (someone else's) <i>diple</i> (flute)	<i>a. To start working for another's benefit, in another's interest. b. To accept another person's opinion, to share opinion with another. c. To ingratiate oneself with another</i> (Otašević, 2012: 209, 210, 250, 309, 773, 800, 944, 947).
To play (blow, strike, blast) into the same <i>diple</i> (flute)	<i>To start working toward the same goal with another, to be like-minded with another</i> (Otašević, 2012: 210, 250, 309, 376, 773, 800, 945, 948).
To play (blow, strike, blast) into an old <i>diple</i> (flute)	<i>To repeat the same actions/routine over and over again</i> (Otašević, 2012: 210, 211, 251, 309, 773, 800, 945, 948).
To play (blow, strike, blast) into such (and such) <i>diple</i> (flute)	<i>To act/behave in a certain way</i> (Otašević, 2012: 210, 211, 251, 309, 773, 800, 945, 948).
To flip over the <i>diple</i> (flute)	<i>To change one's attitude, opinion</i> (Otašević, 2012: 210).
To play into a person's <i>diple</i> (flute)	<i>To control/manipulate someone</i> (Otašević, 2012: 210, 800).
It is another pair of <i>diples</i>	<i>It is quite a different matter</i> (Otašević, 2012: 210, 247, 911).
It is an old <i>diple</i> (flute)	<i>It is a well-known fact, old story</i> (Otašević, 2012: 911).
To adjust the <i>diple</i> to one's own liking	<i>To start doing things one's own way</i> (Otašević, 2012: 211, 951).

It can be noticed that the *diple* is part of 10 idioms. The *diple* is a folk woodwind instrument (Vujanović et al., 2011: 268), which is in *The Serbian Dictionary (Srpski rječnik)* by Vuk Stefanović Karadžić described as being similar to the bagpipes (Stefanović Karadžić, 1818: 130). The instrument belongs to the “tradition of the cattle breeders in the Dinaric Region of the Balkan Peninsula” (Marjanović, 2012: 53), while Nina Aksić states that it was especially popular among cattle breeders in Eastern Serbia, because they could show off their musicianship on it, so together with the *dvojnica* (double flute) and the *reedpipe* (*frula*) and some other wind instruments, the *diple* had a signaling and entertaining function (see Aksić, 2017). Olivera Mladenović states that the author “Ivan Gundulić (17th century) repeatedly mentions the *diple* together with the *kolo* in his epic poem *Osman*” (Mladenović, 1973: 32), and its sound accompanied the silent *kolo* (circle dance) and *oĵkanje* (two-part singing) – “a poetic form that represents one of the most archaic styles of singing” (Ivkov, 2004: 7). However, the *diple* as a phraseological component loses

its entertaining function, and continues to embody its signaling function, i.e. presence or absence of action that symbolizes a change of attitude, opinion, or thought caused by the descriptive qualifiers –descriptions that determine the lexeme by which they are named: *different (separate) diple*, *someone else's diple*, *the same diple*, *old diple*, *such (and such) diple*.

Looking at Table 1, we can see that a number of idioms contain sound verbs as their component (*play, blow, blast, sound, blare*), and according to Svetlana Goljak, in phraseology, “playing musical instruments is associated with the topic of speech” (Голяк, 2014: 93). Gordana Štrbac emphasizes that describing a speech activity through phraseologisms arises from “from the need to express a subjective relationship toward a certain segment of action so as to emphasize and acknowledge its value,” and that the action of speech in idioms “cannot be represented in a neutral way” (Štrbac, 2018: 142). This is also noticeable from the meaning of the idiom *to play (blow, strike, blast) into an old diple* the meaning of which “indicates a repetition of the same content, whereby this action is viewed negatively” (Štrbac, 2018: 146).

The question of why the content of the speech activity, which is viewed in a negative light, is associated with the *diple*, an instrument that was known since the earliest history of the Slavs⁴ arises. The reason may lie in the fact that the *diple*, as a “typical shepherd's instrument” (Golemović, 1997: 100), had an entertaining function, in addition to their signaling function, and was therefore used for musical accompaniment to humorous verses. The *diple* was used for playing short and fast pieces, derisively called *bawdy songs* (Marković, 1987: 53). Associating the *diple* with frivolity, fun and entertainment can also be observed in the retort of the Hellenist Miloš Đurić: “While you blow in the *diple*, I teach students ethics” (Jovanović, 2011: 201). *The Dictionary of the Serbian Language* lists pejorative figurative meanings for the verb *to play the diple* – “to babble, talk nonsensically, talk gibberish,” and the negative meanings it assumes in the expression *to play a different diple* – “to change one's attitude, opinion, to change one's tune” (Vujanović et al., 2011: 268). In addition, *The Etymological Dictionary of the Croatian and the Serbian Language* points to a pejorative meaning of the *diple* in the following expressions: *to play the diple* – “to idle away, to waste time” and *to over-play the diple* – “to eat or drink excessively” (Skok, 1971: 407).

Phraseological units (idioms) that include playing instruments as their component, i.e. *to blow into the fanfare trumpet* (see Table 2), and *to blow in the horn, gourd or the Balkan duduk* (see Table 3, 4 and 5) also

⁴ Đekić and Pavlović assert that the *diple* is “the Slavic double flute”, pointing to the archeological discovery of a *diple* made of bone that can be traced back to the 6th or 7th century (Đekić and Pavlović, 2018: 182).

express a negatively valued content of the speech activity, behavior or deed.

Table 2. Idioms that contain the fanfare trumpet as a component

Idiom	Meaning
to blow into the fanfare trumpet	<i>to celebrate excessively, debauch, let loose</i> (Otašević, 2012: 949, 985).

It can be noted that the *fanfare trumpet* occurs as a phraseological component in a single idiom that means “to celebrate excessively, debauch, let loose” (see Table 2.). The process in which phraseological meaning emerges can be motivated by the fact that the sound of the fanfare trumpet was associated with events and celebrations that were not part of everyday life of common people. In the Serbian medieval state, the fanfare, which stands for “a trumpet or another, similar brass instrument” (Vujanić et al., 2011: 1345), was an instrument that accompanied various events and ceremonies at the courts of Serbian rulers and nobility. Radmila Savić states that the sounding of a fanfare trumpet “announced the beginning of knight tournaments, their individual stages and the end, and especially the announcement of the winners” (Savić, 1986: 90). Although the same author asserts that the games and festivals at the courts of medieval rulers and nobility were mostly public events, i.e. commoners were allowed to attend, she assumes that the music played at such events could not have had a great impact on instrumental folk music (Savić, 1986: 90). In addition, Stanoje Bojanin underlines that the courts of Serbian rulers and nobility had their own entertainers, including professional musicians; that there is scarce information about tournaments in the documents, and that the church “strongly opposed competitions, especially those that featured weapons” (Bojanin, 2005: 367). Therefore, the sounding of the fanfare trumpets could have been associated with pompous celebrations and thus became a symbol of exaggeration in the collective memory. In the process of shaping the phraseological meaning, a connection has been established between one of the meanings of the verb *to blow* “emphasize, announce, declare, etc. something” (Vujanić et al., 2011: 1345), and the signaling function of the fanfare trumpet which is seen as negative.

When it comes to the idioms containing *the horn, gourd and/or Balkan duduk* as a component, the action of playing these instruments has been transferred to the domain of human behavior and action, whereby a connection is established between the signaling function of these instruments and the phraseological meaning that refers, i.e. signals that it is a behavior motivated by interest, because someone ingratiates themselves with someone, takes their side, etc (See Table 3, Table 4 and Table 5).

Table 3. Idioms that contain the horn as a component

Idiom	Meaning
to blow into the same gourd (horn, duduk)	<i>to do and think the same as someone else, to be in collusion with someone, to ingratiate oneself with someone by imitating them, to take somebody's side</i> (Otašević, 2012: 250, 253, 376, 392, 773, 800, 908).
to blow into someone else's horn (gourd, duduk)	<i>to do and think the same as someone else, to be in collusion with someone, to ingratiate oneself with someone by imitating them, to take somebody's side</i> (Otašević, 2012: 250, 253, 773, 800, 908).

Table 4. Idioms that contain the gourd as a component

Idiom	Meaning
to blow into the same gourd (horn, duduk)	<i>to do and think the same as someone else, to be in collusion with someone, to ingratiate oneself with someone by imitating them, to take somebody's side</i> (Otašević, 2012: 250, 253, 376, 392, 773, 800, 908).
to blow into the same gourd (as another)	<i>to share an opinion with someone else, to strive toward the same goal</i> (Otašević, 2012: 376, 909).
to blow into someone else's horn (gourd, duduk)	<i>to do and think the same as someone else, to be in collusion with someone, to ingratiate oneself with someone by imitating them, to take somebody's side</i> (Otašević, 2012: 250, 253, 773, 800, 908).

Table 5. Idioms that contain the duduk as a component

Idiom	Meaning
stupid/thick as a duduk	<i>very stupid, dumb</i> (Otašević, 2012: 253).
to blow into the same duduk	<i>to be in complete agreement with someone, to be of the same mind with someone</i> (Otašević, 2012: 253, 256, 392).
to blow into someone else's horn (gourd, duduk)	<i>to do and think the same as someone else, to be in collusion with someone, to ingratiate oneself with someone by imitating them, to take somebody's side</i> (Otašević, 2012: 250, 253, 773, 800, 908).
to blow into the same gourd (horn, duduk)	<i>to do and think the same as someone else, to be in collusion with someone, to ingratiate oneself with someone by imitating them, to take somebody's side</i> (Otašević, 2012: 250, 253, 376, 392, 773, 800, 908).
to sleep like a duduk	<i>to sleep peacefully, sleep like a log</i> (Otašević, 2012: 253).

Looking at Tables 3, 4 and 5, we can see that the *horn* features as a component in two idioms (phraseological units), *gourd* in three, and the

duduk in five. It is also noticeable that the *horn*, *gourd* and the *duduk* are synonymous components, because the singular meaning of the idioms does not change whether they contain the *horn*, *gourd* or the *duduk* as a component; instead, the negative etymological nuances are determined by descriptive qualifiers that stand next to these musical components. Gordana Vrebalov takes the idiom *to blow into the same gourd* as an example of a phraseologism containing an edible plant, arguing that “it always implies a negative connotation” (Vrebalov, 2012: 104). We agree about the negative connotation. The component *gourd* takes on the meaning of wind instruments made from it through metonymic transfer. It is well-known that the gourd was used to make sound boxes for other musical instruments (see Krstić, 2009). In Central Serbia, gourds were used to make the traditional musical instrument, the *lejka*, which represented a folk equivalent of the clarinet (Jakovljević, 2012). In addition, gourds were used to make the *bučina*, an aerophone that Roksanda Pejović assumes has been used by the Serbs since the 14th century (Pejović, 1989: 88). Thus, this long tradition of making musical instruments from the gourd may have caused the metonymic transfer, because metonymy requires a connection between two entities, and according to Rajna Dragičević, this close relation “impacts the formation of a coherent whole in our experience of the world” (Dragičević, 2010: 161). In addition, the gourd takes on the role of a musical instrument in those phraseological units (idioms) where it occurs next to sound verbs, i.e. verbs that denote playing an instrument – the verb *to blow*, *to blast* the secondary meaning of which is “to make sounds in a musical instrument by producing a stream of air, to play an instrument” (Vujanić et al., 2011: 313).

What all idioms where the *horn*, *gourd* and the *duduk* are used interchangeably as synonyms have in common is the fact that they are global phraseologisms, because a unique phraseological meaning is created in the process of complete desemanticization that features all phraseological components. It was previously pointed out that these instruments have a signaling function, and that it was the primary function for some of them. This is evident in *The Bible verses from the Book of Daniel featuring the horn*. It is mentioned as one of the instruments whose music should invite people to worship the image of gold that Emperor Nebuchadnezzar installed in the land of Babylon – “As soon as you hear the sound of the horn, flute, zither, lyre, harp, pipes and all kinds of music, you must fall down and worship the image of gold that King Nebuchadnezzar has set up” [...] (*Bible*, 2007: 722). Roksanda Pejović also points out that the *short horn*⁵ was a signal instrument, and that the traces of it

⁵ Long horns were also used in the Middle Ages as military instruments, where their long tone would reverberate frighteningly on the battlefield (Pejović, 1984).

can be found in Serbian medieval art “from the 12th-century miniatures to the 18th-century frescoes” (Pejović, 1989: 86). According to the same author, that could be explained by folklore influences, because the horn similar to the folk horn appears on the miniatures in the *Miroslav's Gospel* (Pejović, 1989: 87). In addition to art, the horn also features prominently in medieval literature. The sound of the horn and its signal is mentioned repeatedly in *The Chronicle of the Priest of Dioclea*.⁶ It is a purportedly a medieval manuscript, although historians still cannot agree on the period when it was written, so the estimates vary between the mid-12th century (Šišić, 1928), and the more conservative – second half of the 14th century (Mijušković, 1988). In addition, dictionaries of the contemporary Serbian language state that the horn as a musical instrument had a signaling function. This can also be seen from the secondary meaning of the lexeme which explains that it is an instrument made from an animal horn, or similar horny material that is used to give signals on a hunt (Vujanić et al., 2011: 1146).

In addition to the horn, the *duduk* is another signal instrument. However, in addition to the signaling function, the *duduk* also had an entertaining function. *The Dictionary of the Serbo-Croatian Literary and Vernacular Language* defines it as a “flute, pipe, zurna” illustrated with references to Vuk Karadžić – “The Duduk ... (in southern regions) [is] a flute without a mouthpiece (and the one with the mouthpiece is known in Serbia as the blind flute (Vuk's Dictionary)“ (*Dictionary of the Serbo-Croatian Literary and Vernacular Language*, 1968: 4). In addition, Nina Aksić also indicates that the lexeme *duduk* is synonymous with the lexemes *flute* and *reedpipe*, and that it is a shepherd's instrument with a dual function – signaling, because shepherds blew into the *duduk* to drive the cattle and instruct them “on the direction which they should take,” and an entertaining function, because shepherds played the *duduk* to help pass the time and entertain themselves (Aksić, 2017: 121). However, it can be noted that in the process of the creation of phraseological meaning in idioms where this instruments features together with sound verbs (to blow, blast, strike), the *duduk* loses its entertaining function, but retains its signaling function, because playing the *duduk* signalizes verbal expressions, opinions, and/or deeds that are commonly viewed in a negative light.

Such a small number of idioms that feature the *duduk* as a component (only five) in *The Phraseological Dictionary of the Serbian Language* may raise the question why the *duduk*, given that it is synonymous with the *reedpipe* (*frula*), does not occur more frequently in the phraseology of the contemporary Serbian language, especially if we know that the

⁶ “When you hear the sound of the horn and the trumpet, you blow your trumpets in answer and shout strongly from the mountains” (*GESTA Regum Sclavorum*, 2009: 149).

reedpipe “as the most prominent and common woodwind instrument occurs under different names and variations” (Aksić, 2017: 122). Researching the status of the lexeme *duduk* in the contemporary Serbian language on a 122-million-word corpus, Marija Đinđić assembled a frequency list and determined that the said lexeme occurs only 12 times in the sources created mainly after 1950, and comprising literary texts (both in Serbian and translated from another language), print media, scientific literature, and various instructions available online (Đinđić, 2013: 39). This research is significant, because it helps observe this number of mere five idioms containing the *duduk* as component from a different point of view. Specifically, if we consider the fact that this lexeme occurs 12 times on the frequency list assembled by Đinđić, then the number of five idioms containing the lexeme *duduk* as their component no longer seems so inconsequential. On the contrary, it now becomes proof of the significance of this instrument in our folk tradition. Its significance is also evidenced by the fact that Veselin Čajkanović suggests that Saint Sava is traditionally represented in a shepherd costume with an obligatory shepherd’s crook and a *duduk* (as cited in: Čajkanović, 1973: 157).

The lexeme *duduk* is a Turkish loanword used in the Balkans, which in addition to denoting a reedpipe, also refers to an idler, truant, i.e. it is a pejorative word in Turkish, meaning “fool, idler” (Skok, 1971: 452). This word is also used figuratively in Serbian, where it has a derogatory connotation, denoting “a stupid, laughable man, a fool” (Vujanović et al., 2011: 315). Vesna Đorđević and Nina Aksić, citing the research of Dragana Mršević Radović, argue that the Turkish loanword *duduk*, meaning ‘fool’ and ‘reedpipe’ has established itself in Serbian, whereby one of its meanings, “motivated the comparative idiom *stupid as a duduk*, while the other motivated the idiom *to blow into the same diple with someone*” (Đorđević and Aksić, 2016: 108). There are other interpretations as well, where the idiom *stupid as a duduk* is taken as an example how certain objects (*duduk* – reedpipe) “can be associated with stupidity” in phraseology (Ajdačić and Nepop Ajdačić, 2015: 184). It is a comparative phraseologism, with the following structure: adjective (*stupid*) + as + noun (*duduk*). In comparisons with this structure, the descriptive adjective “does not change its basic meaning, so it is a case of partial desemanticization,” and “such examples of desemanticization of idioms illustrate its intensity” (Stakić, 2020: 114). They also point out that in phraseology, “everything is measured and compared” (Stepanov and Nikolić, 2013: 236), and negative traits are particularly singled out.

In the phraseologism *to sleep like a duduk*, the object (musical instrument) refers to the quality of sleep. This idiom also has a comparative structure in which we also have partial desemanticization, because the verb *to sleep* does not change its meaning (*to sleep peacefully, soundly*). Its meanings – *to sleep peacefully* and *to sleep soundly* (see Table 5) are

not completely semantically matched, because to sleep peacefully means one's sleep is undisturbed, whereas to sleep soundly means "to be fast asleep, to be in deep sleep" (Vujanić et al., 2011: 1475). The meanings mentioned above are not negative, and can perhaps be explained by the transfer of magical properties of wood as a material to the duduk, an instrument made from it. It is well-known that the duduk/reedpipe was largely made of wood, most commonly "plum, cherry dogwood, ash, black locust, linden, maple, willow" (Krnjaić, 2020: 362). Studying the beliefs related to the types of wood used for making the duduk, it has been determined that our people believed some of them had magical properties. Čajkanović points out that the plum tree could have had the same significance in the folk tradition of the Serbs as a shrine, because in Eastern Serbia, communion had been performed under a young plum tree ever since antiquity (see Čajkanović, 1973: 9). The same author also argues that the linden was "a sacred tree of all Slavs" (Čajkanović, 1973: 7), as well as that the Serbs "firmly believed that the hazelnut was of divine nature," that it "represented a symbol of health" (Čajkanović, 1973: 18), as well as that "there was a positive, regenerative, magical power" in the hazelnut tree (Čajkanović, 1973: 18). The comparative idiom *healthy as dogwood tree* (meaning fit as a fiddle) shows that our people believed in the positive magical power of the tree. In addition, the meaning of the idiom *to sleep like a duduk* is synonymous with the idiom *to sleep like a log*, and in both examples, an associative relationship is established between positive magical properties of wood, and health represented by the quality of one's sleep. In addition, the fact that trees are rooted in one place, i.e. motionless, is evocative of our sleep position, so Barbara Kovačević and Martina Bašić point out that idioms containing wood, timber, and woodwind instruments as comparative elements occur within the concept of "sound sleep" (Kovačević and Bašić, 2012: 358).

It has already been pointed out that the *duduk* is synonymous with the *flute (svirala)* and *reedpipe (frula)*, however, the *Phraseological Dictionary of the Serbian Language* (Otašević, 2012) does not feature any idiom containing the *reedpipe (frula)* as a component, and only one idiom containing the *flute (svirala)* (see Table 6).

Table 6. Idioms that contain the *flute (svirala)* as a component

Idiom	Meaning
The ninth (last) hole on the flute	a. <i>something insignificant, secondary, worthless, bottom rung.</i> b. <i>an insignificant person rejected by their group, or society, someone who counts for nothing</i> (Otašević, 2012: 201, 800, 824).

Looking at the phraseological meaning given in Table 6, we can see that the idiom containing the *flute (svirala)* as its component has a dual meaning with the shared component of insignificance attributed to something or someone. Phraseological meaning is created by the process of complete desemanticization, whereby the important category is the category of number. Pavel Krejči underlines that the *flute (svirala)* is a musical instrument that appears with an ordinal number only in Croatian, Serbian and Bulgarian idioms (Krejči, 2014: 174). He also points out that, in addition to the numerical component, Serbian and Croatian dictionaries also record the adjective *last* which does not feature in any Bulgarian phraseological dictionary. On the other hand, Bulgarian phraseology also mentions numbers *ten* and *seven*, in addition to the number *nine*, and these numerical variations can be attributed to the varying number of holes on different types of flutes throughout history (Krejči, 2014: 177). Thus, in Serbian phraseology, the *flute (svirala)* component collocates with the number *nine*. Phraseological meaning is created by the process of desemanticization in which a non-existent part of the instrument (the ninth hole, because the flute has eight) is semantically associated with insignificance and worthlessness. The ninth hole could have easily been the seventh (as in Bulgarian phraseology), given that the popular flute in the past, known as *dvojnica (double flute)* “had six holes on the right, and none on the left” (Aksić, 2017: 123), or the eighth, because both the single and the double flute have “six holes for the diatonic scale” and “one hole on the opposite side for the higher register” (Krstić, 2009: 208, 213). It is possible that the motivation for choosing the number nine in Serbian phraseology comes from the long shepherd flute known as the *kaval*⁷, because the *kaval* has eight holes (seven playing holes in the front, and one in the back for the thumb). However, the motivation behind the variations of this idiom whereby the descriptive qualifiers are associated with the order of holes on the pipe – last, final, can be a visual stimulus, described by Dobrikova as a practical way of instrument control from the observer's point of view, because *kaval* players do not touch the holes on the bottom part of the pipe (Dobříková, 2014). Mirjana Zakić and Jelena Jovanović indicate that the earliest visual presentations of this instrument date back to the 15th and 16th century, and that “on medieval frescoes, shepherds are depicted playing the *kaval*” (Zakić and Jovanović, 2013: 19). The same authors also indicate the presence of the *kaval* in lyric and lyric-epic po-

⁷ Snežana Petrović points out that the lexeme *kaval* “meaning *rifle* and *flute* is a widely confirmed lexical and semantic Turkism in the Balkans” (Petrović, 2006: 348). She also states that Turkic languages and dialects record the following meanings of this word: 'hollow object; shepherd's horn, flute, pipe; tambourine; smoothbore musket, rifle, musket, rifle barrel; simple-minded, stupid person' (Petrović, 2006: 348).

ems “that depict the way of life of shepherds, and illustrate the communicative and emotional aspect of the kaval music” (Zakić and Jovanović, 2013: 19). However, in Serbian phraseology, it was not the signaling or the entertaining function that motivated the emergence of the idiom *the ninth (last) hole on the flute (svirala)*, but the appearance of the instrument itself. From the aspect of development and emergence of this musical instrument among the Serbs, this enables us to establish a timeline, and determine the exact moment when this idiom appeared in our phraseology.

In *The Phraseological Dictionary of the Serbian Language*, the component *bagpipes* occurs in four different phraseological units (see Table 7).

Table 7. Idioms that contain the bagpipes as a component

Idiom	Meaning
As similar as the bagpipes is to a musical instrument	<i>Not even close, far from it, long way off</i> (Otašević, 2012: 133, 516).
Drunk as the bagpipes	<i>Inebriated, drunk as a lord</i> (Otašević, 2012: 134).
To build/assemble/arrange/compile/adjust the bagpipes	<i>To agree/reach an agreement with someone about something</i> (Otašević, 2012: 134, 951, 959).
As struck with the bagpipes	<i>Foolish, silly, harebrained, mad</i> (Otašević, 2012: 134, 949).

Looking at the descriptions of the phraseological meanings given in Table 7, we can see that there are three idioms with a negative connotation, while the meaning of the idiom *to assemble/arrange/compile the bagpipes* is semantically neutral, i.e. it depends on the linguistic context. The emergence of this idiom may have been motivated by the complex process of building this instrument which is described in Vladan Radisavljević’s *The Bagpipes in the Traditional Culture of the Serbs* (see Radisavljević, 2011), which is also indicated by the meaning of the verb *to build* – “1. a. create, put together [...]” (Vujanić et al., 2011: 1356) and the verb *to assemble /compile* which means “to build by fitting together different components” (Vujanić et al., 2011: 1217). However, it could also be motivated by the “tuning of the bagpipes” which is indicated by the metaphorical meaning of the verb *to adjust* – “to tune, bring into harmony (usually a musical instrument)” (Vujanić et al., 2011: 1346), and Radisavljević also describes that pipers used to soak the parts of the bagpipes that contained oakum with their saliva in order to seal them before playing (Radisavljević, 2011). Vesna Đorđević also argues that the “image of assembling and tuning the bagpipes before playing” is deeply ingrained into this phraseologism (Đorđević, 2014: 57). She also points that only when the bagpipes “are assembled” can they produce music, just as “an

agreement between different people is preceded by a period of negotiation/discussion” (Đorđević, 2014: 57).

As previously pointed out, the semantics of all other idioms with the *bagpipes* as a component is negative. In the comparative idiom, *drunk as the bagpipes*, it is associated with intoxication/drunkenness. Here we have partial desemanticization in the process of emergence of phraseological meaning, so the comparison with the bagpipes symbolizes the ultimate stage of drunkenness – *complete inebriation*. The origin of this idiom may have been doubly motivated: 1. by the sound of the bagpipes; 2. by the appearance of the instrument itself. The sound of the bagpipes is instantly recognizable for its loudness, shrillness and slight dissonance which can be mistaken for incorrect pitch, so it may be associated with drunken behavior. The noise generated by the bagpipes is also mentioned by Čajkanović in his descriptions of the folk belief that demons and devils enter with a great commotion accompanied by the sound of the bagpipes, noise and thunder (see Čajkanović, 1973). When it comes to appearance, this instrument is unique, because the drones are longer than the blowpipe, so Radisavljević makes a comparison between the bagpipes and the lame chthonic deities. In addition, the same author points out that parts of the bagpipes were associated with various fertile objects, and that pipers decorated their instruments in different ways: using colorful cloth, multicolored beads, coins, animal claws and teeth, pearls, etc. (see Radisavljević, 2011). So, it was perhaps the visual experience produced by the outlandish appearance of the bagpipes that gave rise to the association with drunkenness. Both Vesna Đorđević and Nina Aksić argue that the image that underlies this idiom is “an image of the unpacked bagpipes carelessly thrown aside that may be associated with drunken behavior” (Đorđević and Aksić, 2016: 103).

The appearance of the bagpipes could have also motivated the meaning of the idiom *as struck with the bagpipes*. The previously mentioned authors wonder how the lexeme *bagpipes* came to be associated with the adjective *foolish*, assuming that the idiom *drunk as the bagpipes* is responsible, because the state of drunkenness can “be alternated with the component foolish” (Đorđević and Aksić, 2016: 103). However, there is another potential interpretation for the origin of this idiom, because the lexeme *struck* also means “silly, harebrained, nutty” (Vujanović et al., 2011: 1344). The bagpipes thus become the instrument of damage, and the interpretation can be approached through a conceptual metaphor that allows non-physical phenomena to be viewed and understood in a physical way (Lakoff & Johnson, 2003: 59). Ivana Čizmar, researching the conceptualization of mental instability in the Croatian language also points out that “a person struck shows milder signs of mental instability” and that there is a “tendency to accurately determine the instrument of such damage” in the Croatian language (Čizmar, 2016: 600).

The motivation for the emergence of the idiom *as similar as the bagpipes is to a musical instrument* can be explained by the sound of the bagpipes. The assumption that the “characteristic hoarse and wailing sound of the bagpipes” is what motivated the creation of this idiom is expressed by Vesna Đorđević as well (Đorđević, 2014: 57). Moreover, Radisavljević argues that lyrics sung to the music of the bagpipes were often humorous and lascivious in nature (Radisavljević, 2011), which is another thing that could have given this idiom its negative semantic value. The negative meaning of this phraseologism could have also been influenced by the reception and ways in which music of the bagpipes was perceived, as criteria that Milica Resanović argues “are not representative of any individualized practices, but rather reflect the characteristics of social stratification” (Resanović, 2020: 1164). From the aspect of collective expression, that could mean that the music played on the bagpipes was not highly aesthetically valued, but this direction in the interpretation of phraseological meaning requires further research that delves into the field of sociology of cultural practices.

CONCLUSION

A review of the material in *The Phraseological Dictionary of the Serbian Language* (Otašević, 2012) established that there are seven wind instruments that appear as phraseological components. The analysis of the meaning of 25 phraseological units (idioms) that feature these instruments determined that a complete or partial desemanticization occurs in the process of creation of phraseological meaning. In cases of complete desemanticization, the process of creating sound, i.e. playing an instrument is transferred to the field of human speech, reasoning and/or deeds. Partial desemanticization commonly involves comparative phraseologisms that denote negative human traits, states or behaviors. Semantic analysis determined that idioms with a negative meaning are prevalent. The signaling function of the instruments motivates the emergence of negative meanings in the field of verbal expression, reasoning and/or deeds, and their appearance and the tuning process motivate negative meanings associated with human traits, states or behaviors. In addition, the entertaining function of these instruments motivates the emergence of certain negative meanings as well, which could indicate that this function is not highly ethically valued in the collective consciousness of our people.

Music contributes to the formation of the national identity, and cultural identity is part of it. Observed from the linguocultural aspect, idioms containing wind instruments as their component reflect the linguistic picture of the world which, according to Maslova, reflects the way of life, customs and traditions of a nation (Maslova, 2001). The dominance of wind instruments in the phraseology of the contemporary Serbian lan-

guage can be explained by the importance these instruments had in the tradition and cultural past of our people, and their life in general. However, the semantics of these phraseological units containing wind instruments as their component is largely negative. They are used for negative assessment of verbal expression, deeds, behaviors and traits as target domains, which indicates that there is a tendency in the linguistic concept of the world to single out and identify everything that is deemed negative. The question of why wind instruments motivated the emergence of such phraseological meanings requires further considerations, so it is our hope that this paper can be an incentive for further research.

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ДУВАЧКИ МУЗИЧКИ ИНСТРУМЕНТИ У СРПСКОЈ ФРАЗЕОЛОГИЈИ

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Резиме

Са настанком човека појавили су и први музички инструменти. Они су се развијали упоредо са развојем људског друштва и остваривали бројне функције. У језику као културном 'спремништу' остале су сачуване устаљене језичке јединице у којима они чине једну од компоненти. Реч је о фразеологизмима који одражавају језичку слику света у којој се огледају и начин живота, обичаји и понашања чланова српске језичке заједнице. Предмет истраживања су они фразеологизми који као компоненту садрже дувачке музичке инструменте како би се

утврдило какву слику sveta они одражавају у савременом српском језику. На њихов избор утицало је то што они као фразеолошке компоненте доминирају у односу на музичке инструменте који припадају другим групама. До тог податка смо дошли анализом „Фразеолошког речника српског језика” Ђорђа Оташевића (2012), из кога је преузет корпус грађе. Евидентирали смо да се као фразеолошке компоненте јавља 12 музичких инструмената, од чега њих 7 или 58,33% спада у дувачке. Реч је о следећим дувачким инструментима: гајде, дипле, дудук, рог, свирала, тиква и фанfare. Они се јављају као компоненте у 25 фразеолошких јединица. Семантичком анализом тих фразеологизама утврђено је да се њима означавају људски говор, мишљење, особине, деловање, стање и понашање. У процесу стварања фразеолошког значења долази до потпуне или делимичне десемантизације. У процесима потпуне десемантизације дувачки инструменти са глаголима стварања звука/свирања учествују у обликовању фразеолошког значења које се преноси на подручје човековог вербалног испољавања, мишљења и деловања. Значења неких од таквих фразеолошких јединица се не мења без обзира на то који је дувачки инструмент у њима садржан као компонента, на пример рог, тиква или дудук. Утврђено је да и само штимовање музичких инструмената (нпр. ујдурисати гајде), као и њихов изглед (девета рупа на свирали) може да мотивише процес потпуне десемантизације у коме све компоненте учествују у стварању пренесеног значења. До делимичне десемантизације долази код фразеологизама који имају поредбену структуру. У таквим примерима поређење служи да се њиме означи негативна људска особина (глуп као дудук) и стање или понашање (пијан као гајде). Евидентиран је и пример који се односи на квалитет сна (спавати као дудук). Запажено је да се сигнална функција музичких инструмената преноси на домен вербалног испољавања, мишљења и понашања (нпр. дувати (пухати) у [нечији] рог). Такође је утврђено да фразеологизми који као компоненту садрже дувачки музички инструмент имају најчешће негативно значење. С обзиром на то да су ови дувачки музички инструменти имали важну улогу у фолклору и обичајној традицији нашег народа, иницира се потреба нових лингвокултуролошких, етнолингвистичких и социолошких испитивања како би се утврдило због чега они мотивишу настанак негативних фразеолошких значења.

ДРВО У КУЛТУРНОМ ПАМЋЕЊУ НЕМАЧКОГ НАРОДА НА ПРИМЕРУ ПРИКАЗА КЊИГЕ ПЕТЕРА ВОЛЕБЕНА *ТАЈНИ ЖИВОТ ДРВЕЋА*

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Апстракт

Од када је 2015. године објављена књига Петера Волебена (Peter Wohlleben) *Тајни живот дрвећа*¹, која је је убрзо постала бестселер, немачко тржиште књига преплављено је књигама о природи и дрвећу. У овом раду покушавамо да одговоримо на питање зашто је књига једног шумара наишла на толико позитивних реакција публике. У фокусу истраживања су симболичко-семантичка значења дрвета и његов значај у културном памћењу немачког народа на које се ослања и Волебен у свом начину приказивања дрвећа. С обзиром на циљ рада у истраживању су примењене методе из области семиотике и историје културе.

Кључне речи: симболика дрвета, културно памћење немачког народа, *Тајни живот дрвећа*, *Das geheime Leben der Bäume*.

THE TREE IN THE CULTURAL MEMORY OF THE GERMAN PEOPLE ON THE EXAMPLE OF PETER WOHLLEBEN'S BOOK THE SECRET LIFE OF TREES

Abstract

After the 2015 release of Peter Wohlleben's book *The Secret Life of Trees*, which soon became a best-seller, books on nature and trees swamped the German book market. This paper is an attempt to answer the question why a forester's book met such positive reactions from the readership. This paper focuses on the symbolic and semantic traits of the tree, as well as its meaning in the cultural memory of the German people that Wohlleben relies on in his way of depicting trees. Taking into consideration the aim of the paper, the semiotic and cultural-historical methods have been implemented.

Кључне речи: tree symbolism, cultural memory of the German people, *The Secret Life of Trees*.

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¹ Оригиналан наслов: *Das geheime Leben der Bäume*.

1. УВОД

Петер Волебен (рођ. 1964) дипломирани је инжењер шумарства који се бори против тренутно популарног мота „подмлађивање шуме“ (што је, заправо, еуфемизам за сечу дрвећа). Савремено опхођење људи према дрвећу, у којем је важна само ефикасност, флексибилност и максимална добит, подстакло је Волебена да да отказ у Савезној покрајинској управи за привреду у Савезној Покрајини Рајна-Палатинат и да пронађе новог послодавца у општини Химел, који дели Волебенова убеђења о обзирном коришћењу шуме, односно, код којег би могао да спроведе у дело своја уверења о еколошкој и економичној заштити животне средине, управо уређујући шумско подручје од 1200 хектара (Волебен, 2017: 9–11).

Осим што Волебен ради као шумски инжењер, он је и аутор бестселера. Његова књига *Тајни живот дрвећа. Шта дрвеће осећа, како комуницира. Откривање скривеног света*² објављена 2015. године, једно је од његових најуспешнијих дела, а од објављивања преведена је на многе језике, између осталог и на српски (Волебен, 2017). Ипак, Волебенова књига о дрвећу није једини немачки бестселер са овом тематиком, већ је од објављивања ове књиге немачко тржиште књига доживело прави „бум“ књига које се баве темом природе и дрвећа.³

У рецензијама и критикама често се наводи да је Волебен својом књигом вратио немачком народу шуме (Heidtmann, 2015). Чињеница је да је култ дрвећа чврсто укоренењен у немачкој традицији и култури, што ће бити приказано у даљем делу рада, при чему се и успех Волебенове књиге може објаснити тиме да аутор приликом описивања дрвећа узима у обзир тај култ дрвећа код немачког народа, што ће бити приказано у трећем делу рада.

2. КУЛТ ДРВЕЋА У КУЛТУРНОМ ПАМЋЕЊУ НЕМАЧКОГ НАРОДА

Опште симболичко значење дрвећа обухвата природу, човека и друштво, односно идеално стање друштва. За стварање такве симболике од примарног значаја су карактеристике дрвећа – укоренење

² Оригиналан наслов: *Das geheime Leben der Bäume: Was sie fühlen, wie sie kommunizieren – die Entdeckung einer verborgenen Welt*.

³ Остале књиге са сличном тематиком које су доживеле успех су: Ервин Тома (Erwin Toma) *Die geheime Sprache der Bäume* (2016), Петер Волебен *Das geheime Netzwerk der Natur* (2017), Роберт Хофрихтер (Robert Hofrichter) *Das geheimnisvolle Leben der Pilze* (2017) и Торбен Халбе (Torben Halbe) *Das wahre Leben der Bäume* (2017).

ност у тлу, разграната конституција и плодност (Butzer/ Jacob, 2012: 41–43).

Као и у митологијама и религијама других култура (кинеске, индијске, иранске, културе Маја, итд), тако и у германској митологији дрво има кључну улогу. Животна снага дрвећа наглашена је већ тиме што према нордијској митологији људи потичу од јасена и вечно зелени Игдрасил (дрво/стабло светова) представља средиште германског митолошког света. Према збиркама сага и песама *Еда* (нем. *Edda*), Игдрасилове гране се шире преко целог света и спајају небо и земљу (уп. *Völuspá*). Тако, на пример, извор Мимира поји мудрошћу и знањем сваког ко са њега пије, а из извора Хвергелмир извиру све реке света. Значење Игдрасила се наглашава још и тиме што је Один, врховни бог Германа, жртвовао своје око како би могао да пије са Мимировог извора, и да је извор Урда извор судбине где живе три богиње судбине (Норне), као и место где германски богови суде (Stange, 2004: 15–309). Култ Игдрасила је и данас препознатљив у традицији божићног дрвета, које индиректно упућује на вечно зелено дрво светова из германске митологије.

У колективном памћењу немачког народа храст такође има значајно место и већ дуго се ово дрво означава као „немачко“ дрво. У време Германа храст је био симбол бесмртности и благослова, а порастом националних тенденција у романтизму 19. века, за време Немачке револуције (1848/49) и каснијим оснивањем Немачког царства (1871) ово дрво постаје симбол верности и националног јединства (Butzer/Jacob, 2012: 84–85). Због тога се храст налази на немачким политичким програмима, споменицима, венцима, орденима, новчићима и новчаницама (нпр. на новчаницама од 5 немачких марака, на фенинзима, на немачким центима) и слично. Осим тога, алегорија за Германију (персонификацију немачке нације) приказује се са венцем од храстовог лишћа.

За разлику од „марцијалног“ храста, липа представља другу страну немачког народа – романтичног грађанина. За стварање симболике липе од суштинског значаја је њен срцасти облик листа. Још у германској митологији она је приписивана Фреји, богињи љубави и заштитници домаћинства (König, 2015: 34). Од средњег века главна липа у селу била је место окупљања и дружења, односно са-стајалиште на којем су размењиване битне информације, а као „дрво љубави“ липа је постала један од кључних мотива средњовековног минезанга, о чему, између осталих, сведочи чувена песма Валтера фон дер Фогелвајдеа (Walther von der Vogelweide) *Under der linden* (Brunner, 1996: 246–247). Липа је имала значајну улогу и у средњовековним јуначким сагама/еповима (Heldensagen/-eren) и у тзв. аргументационим (Artusromane), где је приказивана као дрво које има магијске моћи. Тако је у познатом немачком јуначком епу *Песма о Ну-*

белунзима (*Das Nibelungenlied*) једино рањиво место на телу главног јунака Зигфрида управо место на рамену на које је пао лист липе док се купао у крви змаја (Naumann, 1875: 137–138), а у делу *Iwein* Хартмана фон Ауеа (Hartmann von Aue) липа главном јунаку пружа заштиту од опасности и даје му осећај да је у рају (Hartmann von Aue, 2001: 12–14). Немачки писци су и касније користили симболику липе када су желели да прикажу чежњу, наклоност, али и растанак и смрт љубавника. Тако је дрво липе чест симбол у немачким идилама 18. века, те је 1774. године и најпознатији немачки писац Јохан Волфганг фон Гете (Johann Wolfgang von Goethe) употребио симболичку снагу липе у свом штурм унд дранг роману *Јади младог Вертера* (*Die Leiden des Jungen Werthers*), поистовећујући место испод липе са светом осећања главног (анти)јунака, да би он након љубавне патње и самоубиства био и сахрањен испод две липе (Goethe, 2017). Симболиком липе је наглашавана тадашња грађанска култура осећања и свакодневице, не само у немачкој књижевности просветитељства и штурм унд дранга, већ и у књижевности романтизма и реализма у 19. веку, а Вилхелм Милер (Wilhelm Müller) је у својој песми *Der Lindenbaum* (1824) заједно са Францом Шубертом (Franz Schubert), који је написао мелодију, овом дрвету створио музичко-литерарни споменик, јер је песма ушла у културно памћење Немаца као народна песма *Am Brunnen vor dem Tore*, што се огледа у роману Томаса Мана (Thomas Mann) *Чаробни брег* (*Der Zauberberg*, 1924), где аутор песму циљано повезује са главним ликом Хансом Касторпом, тј. представником просечног Немца тог доба (Blödnr/Marx, 2015: 34; Mann, 2004: 874–898).

Дрво се, даље, у немачкој књижевности јавља са многим симболичким значењима. У бајкама оно је у персонификованом облику, као дрво које говори, даје глас природи (König, 2015: 3–7). Оно може бити и претећа природна појава којој се човек супротставља, као што је то случај у Гетеовој песми *Добродошлица и растанак* (*Willkommen und Abschied*, 1775) (Klausnitzer, 2012: 4), или против које је немоћан, што се види у Брехтовој (Bertolt Brecht) балади *Von des Cortez Leuten* (1919) (Kittstein, 2012: 71–77). Оно може, као у Хамбургеровим (Michael Hamburger) песмама о дрвећу (*Baumgedichte*, 1995), да представља супротност цивилизацији (Hamburger, 1997), или да прикаже (критичку) слику тренутних социјално-политичких односа, као што је то случај у алегорији о сталешком дрвету у Гримелсхаузеновом (Hans Jakob Christoffel von Grimmelshausen) *Симплицисимусу* (*Der Abentheuerliche Simplicissimus Teutsch*, 1668) (Maid, 1994: 148), у Кафкином (Franz Kafka) тексту *Дрвеће* (*Die Bäume*, 1913) (Kafka, 1977) и у Брехтовој балади *Рођенима после нас* (*An die Nachgeborenen*, 1939) (Kropf, 2001: 96–97), или као у роману Јурека Бекера (Jurek Becker) *Јакоб лажљивац*, (*Jakob der Lügner*, 1969) да представља извор наде (Becker, 2000: 9).

3. ВОЛЕБЕНОВО ПРИКАЗИВАЊЕ ДРВЕЋА

Петер Волебен је желео да својом књигом *Тајни живот дрвећа* подстакне читаоце да шуму не посматрају само као профит, тј. извор дрвета, већ као место препуно чуда које је створила природа (Волебен, 2017: 9–11). Књига није написана са идеалистичко-поетског становишта, већ са становишта инжењера шумарства који познаје биологију и који је у књигу унео стручна знања и сопствена свакодневна запажања из шумарске професије, што код читаоца ствара осећај поверења у оно што чита. Волебен, свакако, на себи својствен начин приближава широј публици тему „дрвеће“. Током вођења кроз шуме аутор је схватио да коришћењем чисто научног језика замара слушаоце, а да људи, заправо, воле приче и осећања. Успех Волебенове књиге не може се објаснити само тиме што он преводи научна запажања на језик разумљив читаоцу, већ и тиме што он своје описе дрвећа прожима симболичко-семантичким значењем дрвећа које постоји у колективном памћењу немачког народа, а које је описано у претходном поглављу. На занимљив и добро осмишљен начин аутор повезује стручна знања са темама и мотивима из светске књижевности (пријатељство, непријатељство, породица, љубав, старење, прилагођавање, хуманост, толеранција, смрт) (Daemmrich, 1995; Frenzel, 2008), а да при томе књижевност не однесе превагу над научним чињеницама.

Теме и мотиви које преузима из светске књижевности могу се препознати већ у насловима поглавља: *Пријатељство*⁴, *Љубав*⁵, *Све је лакше у заједници*⁶, *Дрвеће не скрива године*⁷, *Дрво или не*⁸. Осим тога, Волебен оживљава своје описе дрвећа помоћу различитих књижевно-стилских средстава, као што су антропоморфизам, персонификација, поређење, метафора, хумор. Приликом објашњавања међусобног односа дрвећа он користи описе као што су: *шумско друштво, пријатељства, колеге, комшије, групно мажење, педагошко васпитање* итд, и исто чини са описима појединачног дрвећа: *гунђало, самотњак, својеглавац, обешењак, бебе-дрвеће* итд. (Волебен, 2017). Дакле, аутор преноси стручна знања и сувопарни научни језик на такав начин да тема „дрвеће“ постаје занимљива и читаоцима који не поседују стручна знања о овој теми.

Ауторова умешност у томе да опише суштину и понашање дрвећа на такав начин као да је дрвеће људско биће и да (као у доброј

⁴ Оригинал: „Freundschaften“ (Wohlleben, 2015: 9).

⁵ Оригинал: „Liebe“ (Wohlleben, 2015: 25).

⁶ Оригинал: „Gemeinsam geht's besser“ (Wohlleben, 2015: 50).

⁷ Оригинал: „Bäume stehen zu ihrem Alter“ (Wohlleben, 2015: 59).

⁸ Оригинал: „Baum oder nicht Baum“ (Wohlleben, 2015: 75).

причи) у све то унесе одређену дозу напетости и живе сликовитости може се показати на одабраним примерима његових приказа „размене хранљивих материја“ и „мириса“ дрвећа. Како читаоце не би усмерио само на прикупљање стручних информација, већ их довео и у сентиментално расположење, где би осетили емпатију, Волебен објашњава размену животних намирница код дрвећа под мотом „заједно је боље“⁹ (Волебен, 2017: 15), дакле, он дрвеће повезује са симболичким значењем које оно има као местом дружења. Већ на самом почетку он циљано наглашава сентиментално-емпатични аспект, тако што почиње описом једне старе коре дрвета, коре одсечене букве старе око 400 или 500 година, и чуди се томе што делује да ова кора и даље даје знаке живота, као што су зелена боја, која је присутна због хлорофила само код живог дрвећа и лишћа. Својим емоционалним, персонификованим и сликовитим запажањем: „То је могло значити само да овај комад дрвета није био мртав!“¹⁰ (Волебен, 2017: 15), аутор, с једне стране, постиже то да читалац доживи кору дрвета као живо биће којем је потребна помоћ, а са друге стране се код читаоца, као у фикционалним причама, буди интересовање да открије разлог због којег је та кора дрвета преживела. Како би одржао ово тек пробуђено интересовање читаоца, аутор даље користећи сликовит свакодневни језик, разумљив читаоцу, објашњава сложен систем размене хранљивих материја међу дрвећем које се налази око коре ове букве, и приказује како је друго дрвеће испуштајући раствор шећера преко свог корења одржало у животу ову кору дрвета. На тај начин, аутор се надовезује на теме из светске књижевности – хуманост и пријатељство. Он персонификује дрвеће означавајући га као „социјална бића“¹¹ (Волебен, 2017: 15), а њихову хуманост и спремност да помогну једни другима описује као „помоћ суседу у хитном случају“¹² (Волебен, 2017: 14) и као „лепу слику активне помоћи“¹³ (Волебен, 2017: 15) у социјалној заједници у којој се не брине само свако о себи, већ је дрвеће активно повезано преко својих корена и међусобно се помаже, па тако помаже и болесним примерцима своје врсте. Својим описима аутор индиректно упућује на то да дрвеће поседује вид свести о томе да је свако дрво важно за заједницу и да је заштићено у хуманом окружењу међусобне спремности да помогну једни другима, односно, да оно тако може боље да живи, што се види и у следећем одломку:

⁹ Оригинал: „gemeinsam geht es besser“ (Wohlleben, 2015: 11).

¹⁰ Оригинал: „Das konnte nur bedeuten, dass dieses Holzstück doch noch nicht tot war!“ (Wohlleben, 2015, 9).

¹¹ Оригинал: „soziale Wesen“ (Wohlleben, 2015: 11).

¹² Оригинал: „Nachbarschaftshilfe im Notfall“ (Wohlleben, 2015: 10).

¹³ Оригинал: „das schöne Bild einer aktiven Hilfe“ (Wohlleben, 2015: 10).

„Једно стабло није шума нити може да створи локално уравнотежену климу, па је препуштено на милост и немилост ветру и времену. Насупрот томе велики број стабала ствара екосистем који амортизује екстремну врућину и хладноћу, сакупља велику количину воде и производи веома влажан ваздух. У таквом окружењу дрвеће живи заштићено и може достићи дубоку старост. Да би се то остварило, заједница се мора очувати по сваку цену. Ако би се све јединке бринуле само за себе, онда многе не би остариле. Стално сушење би створило велике рупе у врху крошњи, због чега олује могу лакше да продру и оборе још више стабала. Летња жега би допирала до шумског тла и исушила га. Сви би трпели због тога. Зато је за заједницу свако дрво веома вредно и заслужује да се сачува што је дуже могуће“¹⁴ (Волебен, 2017: 15).

Чињеницу да степен међусобног помагања игра животну важну улогу за дрвеће аутор појашњава наводећи разлику између природних и плански сађених шума и користећи персонификацију, односно, антропоморфизам као стилске фигуре, при чему пореди социјалну структуру дрвећа са правим пријатељским односима и децом улице. У природним шумама се, пре свега, развијају права пријатељства међу дрвећем, где је дрвеће уско повезано корењем, а ипак се поштује животни простор другог, тако што једно дрво својим гранама не одузима неопходну светлост другом дрвету. На другој страни, у циљано сађеним шумама дрвеће се понаша као запостављена деца улице, чији је природни развој корена повређен још приликом сађења и којем је као самотњацима теже, па зато и брже умире (Волебен, 2017: 16–17). Користећи персонификацију и сликовита поређења која нису усмерена само на радио, већ и на осећања читаоца аутор у наведеном примеру индиректно заговара чување шума, јер се активним и агресивним поступцима у шумама које су усмерене на добит уништавају природни процеси у шуми. Наглашавањем симболичке природно настале шуме као идеалног стање заједнице које Волебен у својим описима индиректно супротставља људској заједни-

¹⁴ Оригинал: „Ein Baum ist kein Wald, kann kein lokales ausgeglichenes Klima herstellen, ist Wind und Wetter schutzlos ausgeliefert. Zusammen dagegen schaffen viele Bäume ein Ökosystem, das Hitze- und Kälteextreme abfedert, eine Menge Wasser speichert und sehr feuchte Luft erzeugt. In so einem Umfeld können Bäume geschützt leben und uralt werden. Um das zu erreichen, muss die Gemeinschaft um jeden Preis erhalten bleiben. Würden sich alle Exemplare nur um sich selbst kümmern, dann erreichten etliche nicht die Altersphase. Ständige Todesfälle hätten viele große Löcher im Kronendach zur Folge, wodurch Stürme leichter hineinfahren und weitere Stämme umwerfen könnten. Die Sommerhitze würde bis zum Waldboden vordringen und ihn austrocknen. Darunter würden alle leiden. Jeder Baum ist also wertvoll für die Gemeinschaft und verdient es, so lange wie möglich erhalten zu werden“ (Wohlleben, 2015: 11).

ци (као што то чини и Хамбургер у својим песмама) аутор постиже да се читалац не замисли само о опхођењу људи према природи, већ и о постојећим социјалним структурама у својој посредној и непосредној околини.

И приликом објашњавања „ароматичних твари као средстава изражавања“ дрвећа Волебен посеже за сликовитим свакодневним језиком и различитим стилским средствима. Он најпре уводи поређење са човеком који, као и дрвеће, поседује, како тврди Волебен, „тајни језик мириса“:

„То ни нама људима није непознато: за шта се користе дезодоранси и парфеми, ако не за то. Чак и без њихове употребе наш мирис се обраћа у подједнакој мери свести других људи“¹⁵ (Волебен, 2017: 18).

Даље, аутор циљано упућује на познати немачки (и српски) фразеологизам „не мирисати некога“ како би показао функцију мириса на примеру акација у афричким саванама. Како би наведени пример учинио интересантнијим за читаоца, аутор га испуњава персонификацијама и сликовитим језиком и препричава овај пример као кратку причу у којој се акације боре против својих непријатеља, великих биљоједа жирафа и то тако што као оружје користе мирисе. Аутор овде алудира и на симболички заштитнички карактер дрвећа, који је дубоко укоревен у памћењу немачког народа.

„[О]бршћена акација испушта плин (у овом случају етилен) којим упозорава припаднике своје врсте у окружењу на претећу невољу. Све упозорене јединке такође ускладиште отровне материје да би се припремиле на напад. Жирафе знају за ту игру и зато се упуте мало даље у савану где проналазе стабла која ништа не подознају“¹⁶ (Волебен, 2017: 19).

Волебен даље упућује на слична понашања дрвећа у аутохтоним шумама (буква, смрека, храст) и помоћу персонификације и метафоре објашњава читаоцу да и дрвеће осећа бол, при чему он и за разјашњавање процеса осећања бола код дрвећа поново користи поређење са људима:

¹⁵ Оригинал: „Auch uns Menschen ist das nicht unbekannt: Wozu sonst werden Deos und Parfüms benutzt? Und selbst ohne deren Verwendung spricht unser eigener Geruch gleichermaßen das Bewusstsein und Unterbewusstsein anderer Menschen an“ (Wohlleben, 2015: 14).“

¹⁶ Оригинал: „Die befressene Akazie verströmt ein Warngas (in diesem Fall Ethylen), welches den Artgenossen der Umgebung signalisiert, dass hier Unheil naht. Daraufhin lagern alle vorgewarnten Individuen ebenfalls Giftstoffe ein, um sich vorzubereiten. Giraffen kennen dieses Spiel und ziehen daher etwas weiter über die Savanne, wo sie ahnungslose Bäume finden“ (Wohlleben, 2015: 14).

„[С]ви болно примете чим неко почне да их грицка. Када гусеница својски загризе, мења се ткиво око тог места. Поред тога, оно емитује електричне сигнале, на потпуно исти начин као људско тело које се повреди. Истина, овај импулс се не шири у милисекундама као код нас, него само један центиметар у минути. После тога прође још један час док се одбрамбене материје не наталоже у листовима да би паразитима огадиле ручак“¹⁷ (Волебен, 2017: 19).

Чињеницу да дрвеће треба посматрати као интелигентна бића, како је оно и приказано у бајкама (König, 2015: 5-6), аутор објашњава тиме што када једно дрво осети опасност, његово лишће „[и]спушта мирисне материје кроз лишће. И то не било које, него ону која је специјално скројена за одговарајућу сврху“¹⁸ (Волебен, 2017: 20). Тако дрвеће може да се бори циљано против опасности која му прети. Како би објаснио механизме одбране дрвећа, аутор користи књижевну констелацију (типизираних) ликова *добро-лоше*. Он персонификује инсекте који прете дрвећу и представља их као „злотворе“¹⁹ (Волебен, 2017: 20), док „добро“ дрвеће испушта такве мирисе који плански призивају „предаторе“²⁰ (Волебен, 2017: 20) тих злотвора и као „заштитници“²¹ (Волебен, 2017: 20) чувају дрво од инсеката који им прете.

Још један интересантан пример у којем се огледа ауторова досетљивост је његово коришћење језика информатичке струке у објашњавању процеса размене материја дрвећа, тј. његово приказивање шуме као „Wood-Wide-Web“-а (Волебен, 2017: 22), где се комуникација са припадницима своје врсте и других врста дрвећа одвија не само ширењем мириса путем ваздуха, већ и преко коренова који се умрежавају независно од временских услова:

¹⁷ Оригинал: „[S]ie alle merken es schmerzhaft, sobald jemand an ihnen herumknabbert. Wenn eine Raupe herzhaft zubeißt, dann verändert sich das Gewebe um die Bissstelle herum. Zudem sendet es elektrische Signale aus, ganz wie im menschlichen Körper, wenn dieser verwundet wird. Allerdings breitet sich dieser Impuls nicht, wie bei uns, innerhalb von Millisekunden aus, sondern nur mit einem Zentimeter pro Minute. Danach dauert es noch einmal eine Stunde, bis Abwehrstoffe in die Blätter eingelagert werden, um den Parasiten die Mahlzeit zu verderben“ (Wohlleben, 2015: 15).

¹⁸ Оригинал: „Duftstoffe abgegeben [...]. Nicht irgendwelche, sondern speziell auf den jeweiligen Zweck zugeschnittene“ (Wohlleben, 2015: 14).

¹⁹ Оригинал: „Bösewicht“ (Wohlleben, 2015: 16).

²⁰ Оригинал: „Fressfeinde“ (Wohlleben, 2015: 16).

²¹ Оригинал: „Helfer“ (Wohlleben, 2015: 16).

„Изнаенајује што се поруке не шире само хемијским путем не-го и електричним, и то брзином од једног центиметра у секунди“²² (Волебен, 2017: 20).

Како би се обезбедио брз проток информација, гљиве преузимају функцију оптичких каблова за интернет, при чему аутор и овде наглашава одлучујућу улогу сарадње становника шуме у раном откривању опасности. Аутор поново заговара своје еколошко начело да човек мање утиче на природне процесе шума и биљака, јер, како каже Волебен, култивисањем шума човек у великој мери дрвећу одузима способност комуникације испод земље и изнад ње (Волебен, 2017: 20).

3. ЗАКЉУЧАК

Како је у претходним деловима рада наведено и приказано на одабраним примерима, велики успех Волебенове књиге може се објаснити тиме што он у своје описе дрвећа укључује симболичко-семантичко значење дрвећа које већ постоји у колективном памћењу немачког народа, затим тиме што своја стручна знања преводи на језик разумљив читаоцу и оживљава описе дрвећа користећи различита књижевно-стилска средства (антропоморфизам, персонификацију, поређење, метафору, хумор итд). Персонификованим описима дрвећа Волебен открива читаоцу оно што обичном посетиоцу шуме иначе остаје непознато – суштину дрвећа, које поседује осећања и свест, међусобни однос дрвећа, у којем припадници исте врсте с љубављу и пријатељски помажу једни другима, и досетљивост дрвећа, када је потребно да се прилагоде датим околностима, и средства комуникације која при томе користе. Својом књигом Волебен погађа дух садашњег времена дајући људима пример „заједнице дрвећа“ од које би савремени човек који живи веома брзо могао много да научи. Овакав поступак помаже читаоцу да боље разуме дрвеће и њихов животни простор – шуму – али и да изведе одговарајуће закључке о свету и људским односима. Волебенови описи дрвећа подсећају читаоца на старе хумане вредности и приказују социјалну структуру дрвећа у шуми које живи у међусобном поштовању и солидарности, чиме се овај утопијски простор супротставља савременим хаотичним људским односима.

Наведена описна средства донела су овом аутору велике похвале, али и критику. Тако, на пример *Washington Post* хвали Воле-

²² Оригинал: „Überraschenderweise werden die Nachrichten nicht nur chemisch, sondern sogar elektrisch verbreitet, und zwar mit der Geschwindigkeit von einem Zentimeter pro Sekunde“ (Wohlleben, 2015: 14).

бенов стил писања као забаван и освежавајућ (Wulf, 2016), а према речима професорке Сузане Симард са Универзитета Британске Колумбије, која је написала поговор за енглеско издање књиге, ова књига садржи покретачку причу која код читаоца изазива „еурека-ефекат“ (Simard, 2016: 262–265). Али управо то што је одушевило масовну публику је баш оно што се и критикује, пре свега од стране неких стручњака из области природних наука. Пример за то би била и књига Торбена Халбеа *Das wahre Leben der Bäume* (Halbe, 2017). Али, оно што се не може довести у питање је чињеница да је Волебен, комбинујући стручна знања и књижевно-утопијску чежњу за бољим и хуманијим светом, поново пробудио интересовање немачке публике за шумом и дрвћем, које је, како је приказано у другом делу рада, већ дубоко укореењено у културном памћењу немачког народа.

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THE TREE IN THE CULTURAL MEMORY OF THE GERMAN PEOPLE ON THE EXAMPLE OF PETER WOHLLEBEN'S BOOK *THE SECRET LIFE OF TREES*

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Summary

Peter Wohlleben's book *The Secret Life of Trees* became a best-seller after the very first release in 2015. In the meantime, it has been translated into many languages, Serbian included. The question is why a book written by a forester received such positive public reactions. In order to answer this question, the paper takes a deeper insight into the concept of cultural memory of the German people. The paper is primarily focused on symbolic and semantic traits of the tree in German mythology, German literature since the Middle Ages onwards, as well as the significance of the tree symbolism in creating a national identity of the German people in the 19th century.

The review from diverse fields that have formed the cultural memory of the German people explains that the concept of the tree has had a significant place in the cultural memory of the German people since the very beginning. Wohlleben's revival of this topic explains the great success of the book in which the very essence and life of the trees are explained by the author. The paper shows how the author uses a refined way to connect his forestry expertise to the topics and motifs from world literature by reviewing certain chapters of the book. These are friendship, enmity, family, love, the process of getting old, benevolence, tolerance and death. Wohlleben depicts trees by permeating them with their symbolic and semantic meanings, while, at the same time, staying closer to science than literature. However, in order to get closer to his audience, the author uses different figures such as anthropomorphism, personification, comparison, metaphors and humor. By using such a thoughtful way of describing, Wohlleben has succeeded in reaching a wider audience.

**EKONOMIJA
ECONOMICS**

DYNAMIC MODEL OF PERFORMANCE MEASUREMENT OF MIDDLE EAST AIRLINES

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Abstract

Over the past decades, the rapid development of the airline industry has occurred in the Middle East and particularly in the United Arab Emirates. The need for the development of the aviation sector has emerged due to the strategically important position that Middle East occupies as the central point between the eastern and western hemispheres. Its major airlines, so called *Middle East Big Three (MEB3)* - *Emirates*, *Etihad* and *Qatar Airways*, have become dominant in the region, as well as across the globe, primarily thanks to the high quality of their services and globally recognized brand. The focus of the assessment are the airlines' non-financial performance indicators, such as: the number of carried passengers and cargo, number of employees, serving destinations, fleet size, etc. The analysis covered a period of twelve years, starting from 2005 until 2016, which was characterized by the expansion of these airlines. For each observed company, the efficiency was first separately measured using the Data Envelopment Analysis (DEA) method, followed by the dynamic analysis and measurement of their efficiencies using the DEA Window analysis. In both cases, *Emirates Airlines* had the best performance.

Key words: performance evaluation, efficiency assessment, Middle East airlines, DEA

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ДИНАМИЧКИ МОДЕЛ МЕРЕЊА ПЕРФОРМАНСИ БЛИСКОИСТОЧНИХ АВИО-КОМПАНИЈА

Апстракт

Последњих деценија дошло је до наглог развоја авио-индустрије на Блиском истоку, првенствено у Уједињеним Арапским Емиратима. Потреба за развојем авио-сектора јавила се услед стратешки важног положаја који Блиски исток узима као средишња тачка између источне и западне хемисфере. Велике авио-компаније, попут *Emirates*, *Etihad* и *Qatar Airways*, постале су доминантне на својем локалним и међународним тржиштима, првенствено захваљујући квалитету услужне понуде и глобално препознатљивом бренду. У оквиру емпиријског истраживања нагласак је на оцени ефикасности поменутих авио-компанија, имајући у виду њихове нефинансијске индикаторе пословања као што су: број путника, број дестинација, количина превезеног терета итд. Анализа разматра период од дванаест година, конкретније од 2005. до 2016. године, који карактерише експанзиван развој све три авио-компаније. За сваку посматрану компанију, ефикасност је најпре посебно мерена применом методе Анализе обавијања пода-така (DEA), након чега је примењена динамичка анализа и мерење њихових ефикасности применом *DEA Window* анализе. У оба случаја, најбоље перформансе показала је компанија *Emirates Airlines*.

Кључне речи: вишекритеријумска анализа, евалуација перформанси, ефикасност авио-компанија Блиског истока, DEA.

INTRODUCTION

The era of innovative technology, globalization, contemporary lifestyle and increased income has contributed to the growing importance of the air transportation globally. The high demand for air transport has led to the emergence of numerous local and international airlines across the globe, as well as towards the rapid expansion of the Middle East airlines. The three major Middle East airlines, *Emirates*, *Etihad* and *Qatar Airways* dominate nowadays not only in the region, but also globally, thanks to their extensive network coverage, superior service quality and innovative business concepts.

The subject of this research is the efficiency assessment of the three mentioned airlines over the past twelve years. For the purpose of the analysis, *DEA* methodology was applied in order to compare the systems that operate under similar conditions. The aim of the study is to conduct a comprehensive analysis of the airlines' efficiency based on the 5 non-financial parameters, i.e. the chosen key performance indicators. It is expected that the obtained results will help their senior management better understand the current airline position with regard to their past performance, as well as towards their competitors. Besides that, it is expected that the results of the analysis will indicate which performance dimensions still need to be improved and which are at a satisfactory level in case of each airline. The data set for the analysis was obtained from the

airlines' annual reports over the period of twelve years. The parameters that were taken into account are non-financial performance indicators, which together with the financial ones reflect the overall efficiency of the airlines' operations.

Literature review

DEA is a specifically designed tool for measuring the efficiency of complex entities that have various inputs and outputs, with the aim to achieve maximum outputs with minimally engaged inputs. Banker, Cummins, & Klumpes (2010) are of the opinion that the non-parametric methods, such as *DEA*, can identify the best practices based on the performance evaluation of the organizations within a particular business area. Compared to the traditional financial indicators, *DEA* is considered to be the superior tool as it summarizes multiple performance indicators into a single measure that embraces the diversity of the observed units (companies) under one multidimensional framework. Numerous studies attempted to assess the efficiency in different business areas using *DEA* methodology, such as the banking sector (Paradi et al, 2004; Asaftei & Kumbhakar, 2008), the traffic sector where *DEA* was used to assess the efficiency of the rail network in the UK (Kennedy & Smith, 2004), as well as the road transport efficiency in Norway (Odeck & Alkadi, 2004).

When it comes to the airline industry, performance management is a crucial tool for the efficient management of all the aspects of the modern airlines' businesses. This was evidenced by the numerous previous studies that have made significant practical and theoretical contribution towards this field of research (Scheraga, 2004; Barbot et al, 2008; Tsaour, Chang & Yen, 2002; Grafton et al, 2010; Tung et al, 2011; Yayla-Kullu & Tansitpong, 2013; Groen et al 2012; Han et al, 2012; Baker, 2013). When it comes to *DEA* application in the airline industry, authors Yayla-Kullu and Tansitpong (2013) were focused in their study on the service quality evaluation of the twelve American airlines, while authors Coli, Nissi and Rapposelli (2011) implemented *DEA* in order to evaluate the performance of an Italian airline. When it comes to the evaluation of Middle East airlines, two studies can be distinguished – one by Massarat and Jha (2014) and the other by authors Surovitskikh and Lubbe (2008). Massarat and Jha (2014) were evaluating the passengers' perception of the service quality of two UAE airlines - *Etihad* and *Air Arabia*, using the SERVQUAL model. On the other hand, Surovitskikh and Lubbe (2008) were focused on the positioning of the four Middle East airlines - *Emirates*, *Etihad*, *Qatar Airways* and *Gulf Air*, in the South African business and leisure travel environment in their study. However, none of the previously conducted studies has evaluated the performance of the three aforementioned airlines using the same parameters and methodology.

METHODOLOGY

The Data Envelopment Analysis (*DEA*) is a mathematical, non-parametric approach used to calculate the efficiency without requiring specific functional form (Charnes et al, 1994). Accordingly, *DEA* is used to evaluate decision making units (*DMU_s*) by converging multiple inputs into a single “virtual” input and multiple outputs into a single “virtual” output by using weighed coefficients. *DEA* has proven to be an adequate technique for assessing the efficiency of non-profit organizations, since the financial performance indicators, such as revenue and profit, cannot be used to measure the efficiency of such organizations. *DEA* is a measure of the relative efficiency, since it is based on the benchmarking of the observed *DMU_s* that are being compared to each other. Within the model, all the data related to input and output variables for each *DMU_s* are being inserted into a specific linear program in order to obtain the efficiency of *DMU_s*. The efficiency is being calculated as the ratio of the weighed sum of the outputs and weighed sum of the inputs, with the ranges from 0 to 1. Any deviation from that range is being attributed to the excess of the outputs or lack of the inputs. Within *DEA*, the weights are assigned to the input and output variables based on optimization, showing their significance. However, when it comes to other multi-criteria methods, it is the decision maker who determines the weights of the chosen inputs and outputs in advance. Charnes et al. (1978) also highlighted that it does not require a formal approach to determine the weights during the efficiency evaluation. What matters is the identification of the inputs and outputs that will be considered, as well as their minimum weights. More about the basic principles of *DEA* application can be found in Dyson (2001), Sarkis, (2002), Sherman, H. D., Zhu, J. (2006), Cook and Seiford (2009).

Unlike the majority of the previously conducted studies that were using financial indicators to evaluate airline efficiency (Scheraga, 2004; Barbot et al, 2008; Fethi et al, 2000), this study focuses on the non-financial ones. Accordingly, three inputs (number of employees, aircrafts and destinations) and two outputs (number of carried passengers and cargo) were identified, which appear in every airline annual report, as well as in the literature related to performance evaluation of the airlines (Singh, 2011; Barros, Peypoch, 2009). The chosen parameters are the most common non-financial indicators, which together with the financial ones, provide a composite picture of the overall airline operations. The conducted analysis covers a period of twelve years, which represent twelve decision-making units (*DMU_s*). In order to carry out the analysis, *DEA Frontier* software was used.

THE STRUCTURE OF THE RESEARCH PROBLEM

The Impact of the Middle Eastern Airlines on the Development of the Contemporary Air Transport

The three major Middle Eastern airlines - *Emirates, Qatar and Etihad Airways*, so called *MEB3*, have been in the limelight of the world's aviation scene during the past three decades primarily thanks to their innovative business concepts and rapid expansion. Their local markets have developed from small seaports to the big contemporary metropolis, which possess large international airports operated by air carriers from all over the world. Their hubs that operate on the 24/7 regime is what significantly distinguishes them from their competitors, as they do not close even during night hours. All of them were established by the local governments that provide extensive financial and operational support in every aspect.

Thanks to their unique geographical position, as well as the rapid modernization of the region, Middle Eastern carriers enjoy numerous benefits comparing to the carriers from other continents. According to Al-Sayeh (2014), *Etihad* and *Qatar Airways* will double the number of carried passengers by 2020, while *Emirates* will continue to be the largest airline in terms of the carried passengers, although with a bit of a slower growth rate (Table 4).

Table 1. The expected number of carried passengers in 2013-2020 by MEB3 carriers

	2013	2020	Increase (%)
Emirates	49,963,632	88,023,780	76%
Etihad	13,505,634	27,907,404	107%
Qatar	21,581,064	47,401,579	120%

Source: Al-Sayeh, 2014

In the past decades, *MEB3* carriers have completely changed the image of the contemporary aviation thanks to the innovative business concepts and the high level of service quality, leaving a significant impact on other airlines around the world. Considering their wide network coverage, they have mainly impacted the routes across the Middle East region, as well as in Asia and some parts of Africa, which were previously controlled by other airlines.

Below are some of their common characteristics:

- Their individual size matches or exceeds the size of the major European airlines, such as *British Airways* and *Lufthansa*;
- Massive future fleet orders of *Airbus A380* & *787 Boeing Dreamliner*;
- Favorable geographic position;
- The availability of government financial support;

- Competitive fares;
- Modernized fleet and high quality products and services;
- The fiscal, economic and planning constraints do not exist for the three Gulf carriers;
- Their home base airports operate on an unrestricted 365 days 24/7 regime;
- They rely on the long lasting internationally accepted concept of bilateralism to achieve their business goals;

Thanks to the SWOT analysis conducted by the Mott MacDonald Company (2011), the following strengths, weaknesses, opportunities and threats were observed for *MEB3* carriers:

Strengths

- Concerted backing and direction for the airline and airports of the three airlines from their respective governments;
- Availability of financial backing;
- High standard of service and established reputations;
- Geographic position in relation to the major world markets;
- Lack of organized labour;
- Identification of hitherto underserved markets;
- Modern fleets and committed forward order books;
- Unconstrained home bases with commitment for future expansion and development and ability to leverage hub model at limited cost, but with maximum benefit;

Weaknesses

- Small home markets;
- Heavy reliance on ex-patriot labour;
- Inability to serve some major markets: Europe to North America and South America;
- Growing competition for same markets from hubs only a few hundred kilometres apart;

Opportunities

- Deregulation of world air transport market;
- Changes to the airline ownership and control rules in Europe and the USA allowing one or more of the carriers to buy a US or European affiliate;
- Continued constraint on the development of the airport infrastructure, particularly runways in Europe at the major hub airports;
- Association with major oil producing states;

Threats

- Any extension of the Arab spring rebellion into the Gulf region;
- Instability in Iran and Saudi Arabia.

The development of the ME airlines has taken place simultaneously with the growing demand for air transport globally, as well as the expansion and modernization of the region. With an average growth rate of 7.1% annually, the Middle East is currently the fastest-growing region in terms of air transport (IATA Press Release, *Moderating Demand Trend Continues*, 2016). Bearing in mind the currently unfavorable economic situation on the global market scene, these air carriers are also facing certain difficulties and challenges, such as the drop in oil prices on the global market, the political unrest in the region, restrictive legislation and strong competition from European, American and Asian airlines. However, despite the mentioned regulatory constraints and challenges on the global market, the new millennium is characterized by the rapid development of the Middle East airlines, amongst which *Emirates*, *Etiihad* and *Qatar Airways* should be particularly singled out.

Descriptive Statistics

In order to evaluate the efficiency of the mentioned airlines, three inputs (the number of employees, number of airplanes and number of destinations) and two outputs (the number of carried passengers and transported cargo) were identified. The time span in which the efficiency has been measured covers the period of twelve years, from 2005 to 2016 (12 DMU_s), which is shown below for each airline individually (Tables 1-3).

Table 2. Structuring DEA model for efficiency evaluation of Emirates airlines

Year	No of employees (I1)	No of aircrafts (I2)	No of destinations (I3)	Passengers carried (O1)	Cargo tonnage (O2)
2005	17.296	85	70	14.497.000	1.018.000
2006	20.273	96	78	17.544.000	1.155.000
2007	23.650	109	82	21.229.000	1.282.000
2008	28.037	127	90	22.730.000	1.408.000
2009	35.812	142	89	22.731.000	1.580.000
2010	36.652	148	95	27.500.000	1.767.000
2011	38.797	169	98	31.400.000	1.796.000
2012	42.422	197	111	33.900.000	2.086.000
2013	47.678	217	123	39.400.000	2.250.000
2014	52.516	231	133	44.500.000	2.377.000
2015	56.725	251	142	48.100.000	2.509.000
2016	61.205	260	144	51.900.000	25.100.000

Source: The Emirates Group Annual Report (2005-2016)

Table 3. Structuring DEA model for efficiency evaluation of Qatar Airways

Year	No of employees (I1)	No of aircrafts (I2)	No of destinations (I3)	Passengers carried (O1)	Cargo tonnage (O2)
2005	14.323	46	61	3.300.000	178.909
2006	14.787	55	68	4.600.000	250.333
2007	15.000	61	75	6.000.000	290.090
2008	15.808	65	79	8.000.000	340.121
2009	17.505	76	80	10.000.000	389.090
2010	18.100	96	90	12.000.000	500.321
2011	19.000	109	100	14.000.000	580.443
2012	22.000	124	110	16.000.000	620.392
2013	22.600	133	120	17.000.000	680.900
2014	23.500	152	130	18.000.000	710.555
2015	24.000	172	140	22.352.000	764.324
2016	31.000	192	150	26.654.000	954.191

Source: Qatar Airways Group, Annual Report (2005-2016)

Table 4. Structuring DEA model for efficiency evaluation of Etihad Airways

Year	No of employees (I1)	No of aircrafts (I2)	No of destinations (I3)	Passengers carried (O1)	Cargo tonnage (O2)
2005	2.116	12	23	1.000.000	115.000
2006	3.468	22	43	2.800.000	121.000
2007	5.563	37	50	4.600.000	175.000
2008	7.058	42	59	6.000.000	194.000
2009	7.828	53	69	6.300.000	219.000
2010	7.855	57	79	7.100.000	263.000
2011	9.038	64	81	8.300.000	310.000
2012	10.656	70	86	10.200.000	368.000
2013	13.600	89	102	11.500.000	487.000
2014	17.593	110	111	14.300.000	569.000
2015	26.566	121	116	17.000.000	591.000
2016	26.635	122	112	18.500.000	592.700

Source: Etihad Airways, Facts & Figures (2005-2016)

Correlation Analysis

One of the vital steps in DEA model is to correctly identify input and output parameters. The general rule is to have three DMU_s for each input and output variable, which means that the total sum of the input and output variables must be smaller than the number of defined DMU_s. Cooper et al (2007) are of the opinion that the product of inputs and outputs should be smaller than the number of evaluated DMU_s. Therefore,

there is a potential risk that the majority of the DMU_s will show as effective units due to DEA tendency to show each unit (DMU) as efficient as possible (Martić & Savić, 2001). In addition to that, the input and output variables must be precisely defined, operatively significant and fully reflect the performance of the defined units.

Besides that, it is necessary to determine whether a correlation exists between the input and output variables. Therefore, the correlation analysis should be conducted in order to find the strength of the connection between the input and output variables for each of the three Middle Eastern airlines. In order to calculate the relationship between the input and output values of the model, Pearson's correlation coefficient (R) has been used with a value range from +1 (perfectly positive correlation) to -1 (perfectly negative correlation). The tables below show the obtained correlation coefficient for each pair of the observed inputs/outputs for each of the airlines.

Table 5. The correlation between input and output variables in DEA – Emirates Airlines

Variable vs. Variable	R
No of passengers (O1) vs. No of destinations (I3)	0,9936
No of aircrafts (I2) vs. No of employees (I1)	0,9908
No of passengers (O1) vs. No of aircrafts (I2)	0,9904
No of destinations (I3) vs. No of aircrafts (I2)	0,9901
No of passengers (O1) vs. No of employees (I1)	0,9817
No of destinations (I3) vs. No of employees (I1)	0,9774
Cargo (tonnage) (O2) vs. No of passengers (O1)	0,5830
Cargo (tonnage) (O2) vs. No of employees (I1)	0,5603
Cargo (tonnage) (O2) vs. No of destinations (I3)	0,5472
Cargo (tonnage) (O2) vs. No of aircrafts (I2)	0,5304

Source: author

Table 6. The correlation between input and output variables in DEA – Qatar Airways

Variable vs. Variable	R
No of passengers (O1) vs. No of destinations (I3)	0,9962
No of aircrafts (I2) vs. No of employees (I1)	0,9932
No of passengers (O1) vs. No of aircrafts (I2)	0,9915
No of destinations (I3) vs. No of aircrafts (I2)	0,9880
No of passengers (O1) vs. No of employees (I1)	0,9856
No of destinations (I3) vs. No of employees (I1)	0,9838
Cargo (tonnage) (O2) vs. No of passengers (O1)	0,9746
Cargo (tonnage) (O2) vs. No of employees (I1)	0,9723
Cargo (tonnage) (O2) vs. No of destinations (I3)	0,9702
Cargo (tonnage) (O2) vs. No of aircrafts (I2)	0,9629

Source: author

Table 7. The correlation between input and output variables in DEA – Etihad Airways

Variable vs. Variable	R
No of passengers (O1) vs. No of destinations (I3)	0,9918
No of aircrafts (I2) vs. No of employees (I1)	0,9879
No of passengers (O1) vs. No of aircrafts (I2)	0,9777
No of destinations (I3) vs. No of aircrafts (I2)	0,9767
No of passengers (O1) vs. No of employees (I1)	0,9765
No of destinations (I3) vs. No of employees (I1)	0,9603
Cargo (tonnage) (O2) vs. No of passengers (O1)	0,9589
Cargo (tonnage) (O2) vs. No of employees (I1)	0,9575
Cargo (tonnage) (O2) vs. No of destinations (I3)	0,9429
Cargo (tonnage) (O2) vs. No of aircrafts (I2)	0,8921

Source: author

Based on the obtained values, it can be concluded that there is a high and positive correlation among all inputs and outputs for all the three airlines, demonstrated by the correlation coefficient close to one. Accordingly, an increase in the inputs (the number of aircraft, number of destinations and number of employees) will lead to the simultaneous increase of the output (number of carried passengers and cargo tonnage).

DEA IMPLEMENTATION IN AIRLINES' EFFICIENCY EVALUATION

Unlike some conventional methods, DEA analyzes decision making units that are characterized by a larger number of inputs and outputs. The input and output specification is crucial for the effective evaluation, interpretation and implementation of the obtained results. The number of chosen DMUs, that are being compared depends on the purpose of the study, as well as the number of homogeneous units whose performance is being evaluated. The efficiency is reflected in the obtained results (outputs) that are achieved with the correct amount of resources (inputs) and the corresponding technology. In this context, the efficiency can be calculated by comparing achieved and target values for both inputs and outputs. Therefore, the achieved output should be compared to the maximum possible output (output-oriented model) that can be obtained from the defined inputs, while the actual input should be compared to the minimally required input (input-oriented model) that is required in order to produce the desired output level. Thus, in the input-oriented model the efficiency can be improved via input reduction, while in the output-oriented model by output increase. In this study the output-orientation has been adopted, given the fact that the airline interest is to increase the output, rather than to reduce the input. Table 8 shows the

achieved input and output values for *Emirates* during observed period of 12 years, while Table 9 is showing its target (optimal) values.¹

Table 8. The achieved input and output values for Emirates

Year	No of employees (I1)	No of aircrafts (I2)	No of destinations (I3)	Passengers carried (O1)	Cargo tonnage (O2)
2005	17.296	85	70	14.497.000	1.018.000
2006	20.273	96	78	17.544.000	1.155.000
2007	23.650	109	82	21.229.000	1.282.000
2008	28.037	127	90	22.730.000	1.408.000
2009	35.812	142	89	22.731.000	1.580.000
2010	36.652	148	95	27.500.000	1.767.000
2011	38.797	169	98	31.400.000	1.796.000
2012	42.422	197	111	33.900.000	2.086.000
2013	47.678	217	123	39.400.000	2.250.000
2014	52.516	231	133	44.500.000	2.377.000
2015	56.725	251	142	48.100.000	2.509.000
2016	61.205	260	144	51.900.000	25.100.000

Source: DEA Frontier

Table 9. The target input and output values for Emirates

DMU No.	Year	I ₁	I ₂	I ₃	O ₁	O ₂
1	2005	17,296	85	70	14,497,000	1,018,000
2	2006	20,273	96	78	17,544,000	1,155,000
3	2007	23,650	109	82	21,229,000	1,282,000
4	2008	26,756	121	85	22,730,000	1,408,000
5	2009	32,660	135	84	24,779,851	1,580,000
6	2010	36,652	148	95	27,500,000	1,767,000
7	2011	38,797	169	98	31,400,000	1,796,000
8	2012	42,422	197	111	33,900,000	2,086,000
9	2013	47,678	217	123	39,400,000	2,250,000
10	2014	52,516	231	133	44,500,000	2,377,000
11	2015	56,676	247	142	48,100,000	2,509,000
12	2016	61,205	260	144	51,900,000	2,510,000

Source: DEA Frontier software

By observing the achieved and target values from the previous tables, it can be noticed that they are mostly aligned, except for the years: 2008, 2009 and 2015. If 2008 was observed in isolation, it could be noticed that the airline could optimally operate with 26,756 employees, 127 planes and 85 destinations, as these were its target values having in mind

¹ All calculations were made using DEA Frontier software package

reference years, where the relative efficiency was equal to 1. However, that year the airline operated with slightly higher inputs compared to the target ones, which led to lower efficiency that year.

In this study the output-oriented *CCR* model with a constant yield on volume was implemented, and this tends to increase the output at the existing input level. One of DEA characteristics is that it uses mathematical programming to develop efficiency frontier and estimate the relative distance from it. Accordingly, it can be determined how many units are ineffective and by how much the output should be increased to render these units effective. Therefore, the efficiency measure that DEA gives is relative. The corresponding dual model, as a multiplier version of the output-oriented *CCR* DEA model, with three inputs and two outputs for j DMU (in year j) is shown below:

$$\begin{aligned} \min h_{j0} &= \sum_{i=1}^3 v_{ij0} \times x_{ij0}, \\ S.t. \quad &\sum_{r=1}^2 u_{rj0} \times y_{rj0} = 1 \\ &\sum_{i=1}^3 v_{ij0} \times x_{ij0} - \sum_{r=1}^2 u_{rj0} \times y_{rj0} \geq 0, \quad j=1, \dots, 12 \\ &u_r \geq 0 \\ &v_i \geq 0 \end{aligned}$$

where:

y_{rj} - the value of output in year j ;

x_{ij} - the value of input in year j ;

u_{rj0} - weights of the output variables in year j ;

v_{ij0} - weights of the input variables in year j ;

The following table shows the results of *DEA* analysis with different yields on volume: constant, increasing and decreasing. The *constant return to scale* (*CRS*) represents the situation when the output increases proportionally with the input increase, which can be spotted during each efficient year (*RTS* column). However, if the output increases to a lesser extent comparing to increase in inputs, it is considered *decreasing return to scale* (*DRS*), which was noticed in 2008 and 2015. On the other hand, if the output increases to a greater extent compared to the increase in input, it is considered *increasing return to scale* (*IRS*) and it was achieved in 2009.

Table 10. The efficiency of the Emirates Airlines in period 2005-2016.

DMU No.	Year	Efficiency	Sum of lambdas	RTS	Optimal Lambdas with Benchmarks		
1	2005	1,00000	1,000	Constant	1,000	2005	
2	2006	1,00000	1,000	Constant	1,000	2006	
3	2007	1,00000	1,000	Constant	1,000	2007	
4	2008	0,95432	1,007	Decreasing	0,118	2005	0,651 2007 0,138 2010
5	2009	0,95274	0,870	Increasing	0,738	2010	0,132 2012
6	2010	1,00000	1,000	Constant	1,000	2010	
7	2011	1,00000	1,000	Constant	1,000	2011	
8	2012	1,00000	1,000	Constant	1,000	2012	
9	2013	1,00000	1,000	Constant	1,000	2013	
10	2014	1,00000	1,000	Constant	1,000	2014	
11	2015	0,99914	1,066	Decreasing	0,055	2007	0,750 2014 0,261 2016
12	2016	1,00000	1,000	Constant	1,000	2016	

Source: DEA Frontier

Based on the results, it can be concluded that *Emirates* operated efficiently in almost every year during the observed period, as indicated by value 1 in the *Efficiency* column, except in 2008, 2009 and 2015. For each inefficient unit, its efficient reference unit was determined (*ERS - Efficient Reference Units*) comparing to which it was considered ineffective. Therefore, for year 2008 its reference years were 2005, 2007 and 2010, for year 2009, it was 2010 and 2012, while for 2015 the reference years were 2007, 2014 and 2016. The same type of analysis was done for *Qatar* and *Etihad Airways*, as shown in the following tables.

Table 11. The achieved input and output values for Qatar

Year	No of employees (I1)	No of aircrafts (I2)	No of destinations (I3)	Passengers carried (O1)	Cargo tonnage (O2)
2005	14.323	46	61	3.300.000	178.909
2006	14.787	55	68	4.600.000	250.333
2007	15.000	61	75	6.000.000	290.090
2008	15.808	65	79	8.000.000	340.121
2009	17.505	76	80	10.000.000	389.090
2010	18.100	96	90	12.000.000	500.321
2011	19.000	109	100	14.000.000	580.443
2012	22.000	124	110	16.000.000	620.392
2013	22.600	133	120	17.000.000	680.900
2014	23.500	152	130	18.000.000	710.555
2015	24.000	172	140	22.352.000	764.324
2016	31.000	192	150	26.654.000	954.191

Source: DEA Frontier

Table 12. The target input and output values for Qatar

DMU No.	Year	I ₁	I ₂	I ₃	O ₁	O ₂
1	2005	5,856	33	31	4,315,197	178,909
2	2006	8,194	47	43	6,037,908	250,333
3	2007	9,495	54	49	6,996,828	290,090
4	2008	11,133	63	58	8,203,551	340,121
5	2009	12,696	75	64	10,000,000	389,090
6	2010	16,377	93	86	12,067,496	500,321
7	2011	19,000	109	100	14,000,000	580,443
8	2012	20,240	120	102	16,000,000	620,392
9	2013	22,209	130	116	17,000,000	680,900
10	2014	22,769	147	125	19,094,696	710,555
11	2015	24,000	172	140	22,352,000	764,324
12	2016	31,000	192	150	26,654,000	954,191

Source: DEA Frontier software

Table 13. The efficiency of the Qatar Airways in period 2005-2016.

DMU No.	Year	Efficiency	Sum of lambdas	RTS	Optimal Lambdas with Benchmarks
1	2005	0,73037	0,308	Increasing	0,308 2011
2	2006	0,85472	0,431	Increasing	0,431 2011
3	2007	0,89304	0,500	Increasing	0,500 2011
4	2008	0,98262	0,586	Increasing	0,586 2011
5	2009	0,98991	0,561	Increasing	0,392 2011 0,169 2016
6	2010	0,97869	0,862	Increasing	0,862 2011
7	2011	1,00000	1,000	Constant	1,000 2011
8	2012	0,96896	0,885	Increasing	0,601 2011 0,285 2016
9	2013	0,98271	1,092	Decreasing	0,937 2011 0,055 2015 0,10
10	2014	0,96892	1,056	Decreasing	0,555 2011 0,474 2015 0,03
11	2015	1,00000	1,000	Constant	1,000 2015
12	2016	1,00000	1,000	Constant	1,000 2016

Source: DEA Frontier

In the case of *Qatar Airways*, the efficiency was achieved in 2011, 2015 and 2016, as indicated by the obtained values in the *Efficiency* column. This is a weaker result comparing to *Emirates* which achieved efficiency during the period of nine years. In case of *Qatar Airways*, the remaining years were considered ineffective in relation to their benchmark units, thus their input/output level needs to be adjusted in order to operate at the margin of efficiency. For example, in 2014. the number of carried passengers could reach 19 million, which was its target value having in mind the level of used inputs that year, but the achieved figure was one million less.

When it comes to *Etihad Airways*, the efficiency was achieved in the following five years: 2005, 2012, 2013, 2014 and 2016, while the rest of the years were relatively inefficient in comparison. This is a slightly better result compared to *Qatar* and a somewhat weaker result comparing to *Emirates*.

Table 14. The achieved input and output values for Etihad

Year	No of employees (I1)	No of aircrafts (I2)	No of destinations (I3)	Passengers carried (O1)	Cargo tonnage (O2)
2005	2.116	12	23	1.000.000	115.000
2006	3.468	22	43	2.800.000	121.000
2007	5.563	37	50	4.600.000	175.000
2008	7.058	42	59	6.000.000	194.000
2009	7.828	53	69	6.300.000	219.000
2010	7.855	57	79	7.100.000	263.000
2011	9.038	64	81	8.300.000	310.000
2012	10.656	70	86	10.200.000	368.000
2013	13.600	89	102	11.500.000	487.000
2014	17.593	110	111	14.300.000	569.000
2015	26.566	121	116	17.000.000	591.000
2016	26.635	122	112	18.500.000	592.700

Source: DEA Frontier

Table 15. The target input and output values for Etihad

DMU No.	Year	I ₁	I ₂	I ₃	O ₁	O ₂
1	2005	2,116	12	23	1,000,000	115,000
2	2006	3,234	20	27	2,800,000	121,000
3	2007	4,928	32	40	4,600,000	175,000
4	2008	6,852	40	47	6,000,000	210,490
5	2009	6,581	43	53	6,300,000	227,294
6	2010	7,510	49	61	7,100,000	263,000
7	2011	8,814	57	71	8,300,000	310,000
8	2012	10,656	70	86	10,200,000	368,000
9	2013	13,600	89	102	11,500,000	487,000
10	2014	17,593	110	111	14,300,000	569,000
11	2015	25,347	117	112	17,419,187	591,000
12	2016	26,635	122	112	18,500,000	592,700

Source: DEA Frontier

Table 16. The efficiency of Etihad Airways in period 2005-2016.

DMU No.	Year	Efficiency	Sum of lambdas	RTS	Optimal Lambdas with Benchmarks
1	2005	1,00000	1,000	Constant	1,000 2005
2	2006	0,93254	0,503	Increasing	0,257 2005 0,241 2012 0,005 2016
3	2007	0,88592	0,554	Increasing	0,115 2005 0,440 2012
4	2008	0,97094	0,523	Increasing	0,443 2012 0,080 2016
5	2009	0,84078	0,618	Increasing	0,618 2012
6	2010	0,95612	0,774	Increasing	0,087 2005 0,688 2012
7	2011	0,97524	0,934	Increasing	0,134 2005 0,801 2012
8	2012	1,00000	1,000	Constant	1,000 2012
9	2013	1,00000	1,000	Constant	1,000 2013
10	2014	1,00000	1,000	Constant	1,000 2014
11	2015	0,96709	1,317	Decreasing	0,397 2005 0,920 2016
12	2016	1,00000	1,000	Constant	1,000 2016

Source: DEA Frontier

DEA Window Analysis of Efficiency of All Three Companies

In order to determine the performance and monitor the performance trends of the decision-making units over a specific time period, it is possible to use an extended DEA. In literature, this analysis is known as the Window DEA method and represents a variant of a traditional DEA approach that can be described as a moving average technique which establishes efficiency measures by observing the DMU at different time periods as a separate unit (Wang et al., 2013). Each unit is treated as a different DMU in a different time period, while the performance of the observed DMU is compared with its performances over other periods of time and with the performance of all other units encompassed by a single window (Yang and Chang, 2009; Cooper et al, 2011). According to Kutlar et al. (2015), in this analysis, a smaller window size can lead to a smaller number of DMUs, which in combination with a large number of variables, reduces the discriminatory power of the analysis. On the other hand, the larger the size of the window the higher risk of erroneous results, because important changes that happen at a certain point can be ignored because of the oversized window. In this extended DEA model, n DMU ($j = 1, \dots, n$) in time intervals ($t = 1, \dots, P$) is observed and all are used from the input to obtain the m output. The observed set consists of $n \times P$ entities and one entity in the period t . A window that starts at the moment l , $1 \leq l \leq P$ and has a width w , $1 \leq w \leq P-1$, and is denoted by lw , and consists of $n \times w$ observations (Jia and Yuan, 2017).

Using the DEA Window analysis, for the three observed airlines, with nine windows, each length $w = 4^2$, average efficiency was calculated

² Charnes et al, 1994, proposed that a window length of three or four time periods tend to yield the best balance of informativeness and stability of the efficiency measure.

in the observed period, 2005-2016, formation and application of $3 \times 12 \times 4 = 144$ models (Table 18)³.

Table 17. Descriptive statistics of input and output variables

Variable	I ₁ (No of employees)	I ₂ (No of aircrafts)	I ₃ (No of destinations)	O ₁ (Passengers carried)	O ₂ (Cargo tonnage)
max	61205 (EA ₂₀₁₆)	260 (EA ₂₀₁₆)	150 (Q ₂₀₁₆)	51900000 (EA ₂₀₁₆)	25100000 (EA ₂₀₁₆)
min	2116 (ET ₂₀₀₅)	12 (EA ₂₀₀₅)	23 (ET ₂₀₀₅)	1000000 (ET ₂₀₀₅)	115000 (ET ₂₀₀₅)
mean	23240,6111	114,22	94,13	17803805,55	1516454,69
SD	14966,13	64,63	30,05	13060547,5	4102300,35

Table 18. Average efficiency: variation through windows

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Average
<i>Emirates Airlines</i>	1	1	1	1									1
		1	1	0,97	1								0,99
			1	0,95	0,95	1							0,97
				1	0,95	1	1						0,98
					0,95	1	1	1					0,98
						1	1	1	1				1
							1	1	1	1			1
								1	1	1	1		1
									0,96	0,99	0,99	1	0,98
<i>Qatar Airways</i>	0,36	0,42	0,50	0,63									0,48
		0,42	0,50	0,63	0,67								0,56
			0,50	0,63	0,67	0,73							0,63
				0,66	0,70	0,78	0,86						0,75
					0,70	0,75	0,83	0,83					0,78
						0,75	0,82	0,82	0,84				0,81
							0,81	0,81	0,83	0,84			0,82
								0,80	0,82	0,83			0,86
									0,84	0,84			0,90
<i>Etiihad Airways</i>	0,92	0,89	0,92	0,94									0,92
		0,89	0,92	0,94	0,89								0,91
			0,91	0,94	0,89	1							0,93
				0,97	0,88	0,98	1						0,96
					0,84	0,95	0,96	1					0,94
						0,95	0,96	1	0,92				0,96
							0,96	1	0,92	0,88			0,94
								1	0,92	0,87	0,74		0,88
									0,92	0,89	0,74	0,81	0,84
Average	0,76	0,77	0,80	0,85	0,84	0,91	0,93	0,93	0,91	0,90	0,91	0,92	

³ All DEA Window calculations were made using Solver LV8 software package

Table 19. Average efficiency: variation through windows

	2005-2006-2007-2008	2006-2007-2008-2009	2007-2008-2009-2010	2008-2009-2010-2011	2009-2010-2011-2012	2010-2011-2012-2013	2011-2012-2013-2014	2012-2013-2014-2015	2013-2014-2015-2016
Emirates Airlines	1	0,99	0,97	0,98	0,98	1	1	1	0,98
Qatar Airways	0,48	0,56	0,63	0,75	0,78	0,81	0,82	0,86	0,90
Etiihad Airways	0,92	0,91	0,93	0,96	0,94	0,96	0,94	0,88	0,84

Table 20. Average efficiency through term

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Emirates Airlines		1	1	1	0,98	0,96	1	1	1	0,99	0,99	1
Qatar Airways	0,36	0,42	0,50	0,63	0,69	0,75	0,83	0,81	0,83	0,84	1	0,95
Etihad Airways	0,92	0,89	0,91	0,95	0,87	0,97	0,97	1	0,92	0,88	0,74	0,81

The dynamic analysis of the achieved efficiency, in case the set of decision-making units, takes the observed periods for all three companies together in consideration, and shows significant deviations from the previous analysis, but gives comparable results in the observed period. The results show that for Emirates, in that sense, in 2005, 2006, 2007, 2010, 2011, 2012 and 2016, they were efficient in the use of available resources, for Qatar it was only in 2015, and for Etihad 2012 (Table 19). The graphic presentation of the efficiency movement (Figure 1) illustrates the relatively stable efficiencies in the observed period for Emirates, the rising trend for Qatar and the declining trend for Etihad (Figure 1 and 2) The combined average efficiency of all three companies, over the observed period, first shows growth, and then slight decline, but a relatively stable trend, in the amount of 76% to 93% efficient use of available resources (Table 17)⁴

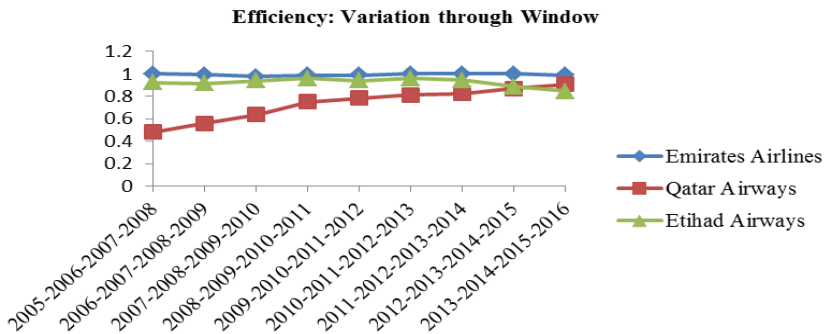


Figure 1. Efficiency score: Variation through Window

⁴ All calculations were made using DEA Solver LV8 software package

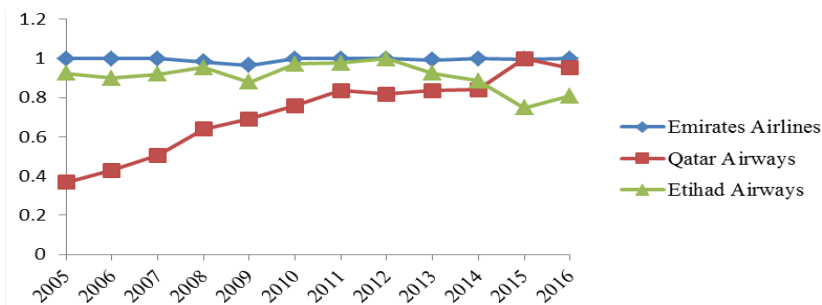


Figure 2. Average efficiency score: Variation by Term

Effect of Efficiency on Airline Profits

After comparing the three airlines’ efficiency results, the achieved values were also compared with the business results, expressed in terms of profit, for *Emirates* airlines (graph). For the other two airlines, a similar analysis could be performed, but due to the lack of the data this analysis was omitted.

Table 21. The comparison of normalized profit values with achieved efficiency for *Emirates*

Year	Profit (normalized)	Efficiency (DEA CRS model)
2005	0,61	1
2006	0,75	1
2007	1,22	1
2008	1,07	0,95
2009	0,61	0,95
2010	0,85	1
2011	1,31	1
2012	0,44	1
2013	0,68	1
2014	1,03	1
2015	1,43	0,99
2016	2,014	1

Source: author

Based on the results it can be concluded that the *Emirates*’ profit movement was in line with the global economic situation and the impact of the external factors, such as the global financial crisis that occurred in October 2008. Although the UAE economy started to turn around in 2011, the real effect of the growth was felt throughout 2012, especially in trade, aviation, tourism and retail sectors — the key drivers of economic growth in addition to oil. The above implies that even though *Emirates* used its resources efficiently, as indicated by the straight red efficiency

line, the external factors and circumstances that were beyond airline’s control nevertheless had an impact on the achieved profit values.

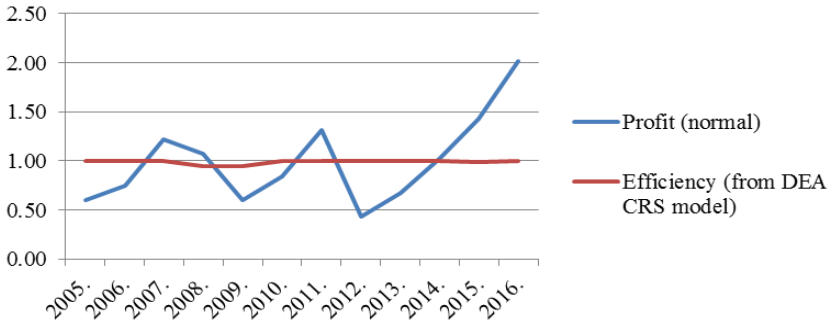


Figure 3. Graphical presentation of normalized profit values and achieved efficiency for Emirates (2005-2016)

The correlation analysis was conducted as well for the *Emirates* airline, in order to examine if there is a correlation between the two observed variables - profit and efficiency from *DEA CCR* model (table).

Table 22. The Correlation Coefficients Matrix

		Profit (normal)	Efficiency (from DEA CRS)
Profit (normal)	R	1,0000	
	<i>R Standard Error</i>		
	<i>T</i>		
	<i>p-value</i>		
	<i>H0 (5%)</i>		
Efficiency (from DEA CRS model)	R	0,1260	1,0000
	<i>R Standard Error</i>	0,0984	
	<i>T</i>	0,4015	
	<i>p-value</i>	0,6965	
	<i>H0 (5%)</i>	<i>accepted</i>	
R			
<i>Variable vs. Variable</i>	<i>R</i>	<i>No# of valid cases</i>	
<i>Efficiency (DEA CRS model) vs Profit (normal)</i>	0,1260	12	

Source: Authors

Based on the results of the conducted analysis it can be concluded that the correlation doesn't exist ($p = 0,6965$; $H0(5\%)$ accepted) between the two observed variables when it comes to the *Emirates* airline,

which supports the previously obtained results. However, this does not mean that the correlation does not exist between the efficiency and some other performance indicator for this airline, if that was chosen for the purpose of the analysis.

CONCLUSION

Based on the conceptual framework of the research, the efficiency evaluation of the three Middle Eastern airlines was carried out by implementing *DEA* methodology. Accordingly, *DEA* efficiency model was created and applied, where the achieved and target performance values were quantified and compared as part of the efficiency evaluation of the three ME airlines. The results of the carried analysis indicated that the *Emirates Airline* achieved the highest level of operations efficiency when it comes to the observed ME airlines. It operated efficiently in nine out of twelve observed years, *Etihad Airways* in five and *Qatar Airways* in only three years within the given period. The results also showed that *Qatar Airways* has the lowest efficiency when it comes to the input/output ratio, while *Emirates* and *Etihad* are considered to be relatively efficient. *DEA* Window analysis showed that *Etihad* had the best performance and best practice in the observed period.

Besides that, for the *Emirates* airline an additional analysis was performed in order to examine whether the correlation exists between the efficiency from *DEA* CCR model and the achieved profit during the observed period of twelve years. For the other two airlines such data could not be found, so the analysis was omitted. The results showed that the correlation did not exist between the two observed values, which is in line with the results of the previous analysis. However, this does not imply that the correlation will not exist between the efficiency and some other performance indicator for this airline, such as revenue, etc. Based on the achieved level of efficiency, further measures will be undertaken to improve their business in the future.

When it comes to the constraints and shortcomings of the conducted research, one of them is that only five performance indicators were taken into account during the assessment, which partly reflected in the results of the analysis. Besides that, a time period of twelve years was considered during the performance evaluation, while a longer time span could have given more comprehensive and reliable results. Bearing that in mind, the analysis could be more detailed and complete if the number of the pre-selected performance indicators was greater and the observed time period longer, which is also one of the useful implications for future research. However, despite these shortcomings, the conducted study provides a theoretical and practical contribution to the further development of the aforementioned research area, bearing in mind that until now the same

analysis has not been conducted when it comes to the three ME airlines using the same parameters and methodology. Therefore, the obtained results can provide an important guideline for the future operations of the Middle Eastern airlines, as well as for other airlines around the globe.

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ДИНАМИЧКИ МОДЕЛ МЕРЕЊА ПЕРФОРМАНСИ БЛИСКОИСТОЧНИХ АВИО-КОМПАНИЈА

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Резиме

У раду је извршена оцена ефикасности пословања три авио-компаније Блиског истока, при чему је примењена метода анализе обавијањем података. Дефинисањем модела за оцјену ефикасности пословања, као и квантификацијом и компарацијом остварених и циљаних перформанси – извршена је евалуација ефикасности пословања три поменуте авио-компаније у посматраном периоду. Добијени резултати представљају вредну информацију за менаџмент поменутих авио-компанија, самим тим што пружају увид у ефикасност тренутног пословања, те се на основу поменутог креирају мере за побољшање пословања у будућности. Поред тога, добијени резултати указују на перформансе које су на довољавајућем нивоу ефикасности, као и на оне које треба побољшати како би се постигла оптимална ефикасност пословања све три авио-компаније. Након спроведене анализе, дошло се до закључка да је авио-компанија Emirates постигла најбољу ефикасност пословања, и то у девет од дванаест посматраних година, Etihad Airways у пет, а Qatar Airways у свега три године у датом периоду. Добијени резултати су такође показали да авио-компанија Qatar Airways остварује најмању ефикасност односа улаза и излаза, док се авио-компаније Emirates и Etihad сматрају релативно ефикасним. Поменуто је потврђено и на основу односа остварених и циљаних улазних и излазних величина које су код авио-компанија Emirates и Etihad изједначене, док се код авио-компаније Qatar Airways

разликују. На основу добијених резултата, свака авио-компанија има увид у досадашњу ефикасност пословања, те се на основу тога могу предузети одговарајуће мере за побољшање пословања у будућности.

Када су у питању ограничења и недостаци спроведеног истраживања, познато је да је само пет перформанси узето у обзир приликом оцене, што се делом одразило на добијене резултате, те је стога важно истаћи ову чињеницу. Као још један од недостатака може се навести то што је током евалуације перформанси разматран временски период од дванаест година. Имајући у виду наведено, анализа би била знатно комплетнија и свеобухватнија, а самим тим и резултати веродостојнији, уколико би број посматраних перформанси пословања био већи, а посматрани период дужи, што је такође једна од корисних импликација за будућа истраживања. Међутим, упркос наведеним недостацима, спроведено истраживање пружа теоријски и практични допринос даљем развоју поменуте истраживачке области, имајући у виду да до сада нису мерене исте перформансе код три поменуте авио-компаније користећи исту методологију. Самим тим, добијени резултати могу послужити као важна смерница у будућем пословању авио-компанија Блиског истока, као и других авио-компанија широм света.

ENTREPRENEURIAL SELF-EFFICACY AND BUSINESS SUCCESS OF ENTREPRENEURS IN THE REPUBLIC OF SERBIA: A PILOT STUDY^a

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Abstract

The entrepreneurial self-efficacy is generally considered to be an important determinant of the entrepreneurship as a career choice. Another stream of the research on entrepreneurial self-efficacy is focused on exploring the link between this construct and the entrepreneurs' business performance. Present study tries to fill the gap within this research field in the Serbian context by examining the relations of the entrepreneurial self-efficacy of entrepreneurs operating in the Republic of Serbia to their business performance. The study explores the nature of the relationship between the entrepreneurs' business success and their general entrepreneurial self-efficacy (captured by one holistic measure), but also between business success and different dimensions of the entrepreneurial self-efficacy. Results show that general entrepreneurial self-efficacy and different dimensions of this construct are positively correlated to business success both measured by net profit and by a composite indicator of business success. The exception is the entrepreneurial self-efficacy in finance which is negatively correlated to the composite index of business success. Nevertheless, in the majority of cases, the results show the existence of the hypothesized directions of the relationship.

Key words: entrepreneurship, human capital, entrepreneurial self-efficacy, business success, Republic of Serbia

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ПРЕДУЗЕТНИЧКА САМОЕФИКАСНОСТ И ПОСЛОВНИ УСПЕХ ПРЕДУЗЕТНИКА У РЕПУБЛИЦИ СРБИЈИ: ПИЛОТ СТУДИЈА

Апстракт

Генерално се сматра да је предузетничка самоефикасност битна детерминанта избора предузетништва као опције запошљавања. Друга струја истраживања предузетничке самоефикасности је фокусирана на истраживање везе између овог феномена и пословних перформанси предузетника. Истраживањем односа између предузетничке самоефикасности и пословног успеха предузетника у Србији, студија настоји да попуни јаз у проучавању овог питања у Србији. Студија истражује природу односа између пословног успеха предузетника и њихове опште предузетничке самоефикасности (мерене једним холистичким мерилом), али и између пословног успеха предузетника и различитих димензија (компоненти) предузетничке самоефикасности. Резултати указују на то да су и општа предузетничка самоефикасност, као и поједине димензије овог конструкта позитивно корелисане са пословним успехом предузетника, и када се он мери оствареним нето добитком, и када се мери композитним индикатором пословног успеха. Изузетак је предузетничка самоефикасност у домену пословних финансија која је негативно корелисана са композитним индикатором пословног успеха. У већини случајева резултати указују на постојање претпостављеног смера односа између посматраних појава.

Кључне речи: предузетништво, хумани капитал, предузетничка самоефикасност, пословни успех, Република Србија.

INTRODUCTION

The purpose of this study is to analyze the relationship between the entrepreneurial self-efficacy as a component of human capital of entrepreneurs in the Republic of Serbia and their business success. Human capital is considered to be a set of acquired characteristics of an individual which contribute to his/her productivity (Carter, Brush, Green, Gatewood, & Hart, 2003), and it is regarded as one of the most important determinants of entrepreneurial activity and performance. Out of all determinants of small business growth that are recognized by Storey's (2010) framework, two thirds refer to human capital components.

Entrepreneurs' human capital itself is a multidimensional variable (Coleman, & Robb, 2009; Lee, Jasper, & Fitzgerald, 2010). Therefore, there is a need to assess the relationships between its various components and business success. One of these components is the entrepreneurial self-efficacy. The entrepreneurial self-efficacy is a construct that describes how an individual assesses his/her own abilities to successfully perform the entrepreneurial activity (Miao, Qian, & Ma, 2016). Self-efficacy in general, as well as the entrepreneurial self-efficacy determine one's goal setting and commitment (Zhang, Cui, Zhang, Sarasvathy, & Anusha, 2019). Initially, entrepreneurial self-efficacy was researched as a deter-

minant of one's career's choice, while the subsequent studies have expanded the research questions in order to explore the relations between entrepreneurial self-efficacy and entrepreneurial business success (Cumberland, Germain, & Meek, 2015). As a determinant of the entrepreneurial business success, entrepreneurial self-efficacy is one of the less analyzed components of human capital, especially within the Serbian entrepreneurial ecosystem.

A systematic review of the literature on the entrepreneurial self-efficacy performed by Newman, Obshonka, Shwarz, Cohen, & Nielsen (2019) summarizes the research on this construct. This review reveals that the entrepreneurial self-efficacy is a domain-specific self-efficacy which can be fostered or inhibited by various antecedents, such as: cultural and institutional environment, firm characteristics, education and training, work experience, role models and individual characteristics. The two main outcomes of the entrepreneurial self-efficacy refer to the entrepreneurial intentions and the entrepreneurial emotions/mental state. These two types of outcomes together determine the entrepreneurial behavior, venture creation and entrepreneurial performance.

The content of one's entrepreneurial self-efficacy can be captured holistically through one composite score. Additionally, entrepreneurial self-efficacy can be examined along different dimensions. In order to determine the link between the entrepreneurial self-efficacy and business success, but also to explore the importance of different dimensions of this variable for business success, this study focus on both the general entrepreneurial self-efficacy and on its distinct dimensions. Results of such study should contribute to fully understand the complexity of the conditions for entrepreneurs in the Republic of Serbia to achieve business success.

A study of entrepreneur's self-efficacy as a determinant of his/her business success should add to the research on the state and characteristics of human capital of entrepreneurs in the Republic of Serbia. Taken together, these results should contribute to better understanding of the background of the entrepreneurial performance. Moreover, understanding the relationship between entrepreneurs' self-efficacy and success, along with the knowledge of the existing level of their entrepreneurial self-efficacy, can reveal potential gaps than should be closed in order to improve entrepreneurs' business results. Public policy initiatives are one of the ways to fill the gap between the knowledge and skills that entrepreneurs already have and those that are necessary for successful running their businesses. Therefore, understanding the relationship between the entrepreneurial self-efficacy of an entrepreneur and the success of his/her business can properly direct measures of promotion and support of entrepreneurship, such as various training programs. Moreover, revealing the relationship between the entrepreneurial self-efficacy and the business success can help in shaping the contents of entrepreneurial curricula and syllabuses offered by Serbian education system.

LITERATURE REVIEW

Entrepreneurs' human capital is one of the most researched determinants of their performance. Within the framework of business success determinants, the most frequently studied components of entrepreneurs' human capital are: level and field of education, work experience and experience in the industry of an established business, prior experience in managerial positions, as well as previous ownership experience. Entrepreneurial self-efficacy is a human capital component that is less researched within this framework. At the same time, this component of human capital is an important predictor of certain (entrepreneurial) behavior (Kickul, Gundry, Barbosa, & Whitcanack, 2009).

Self-efficacy is a self-perceived ability to achieve a specific goal by realizing a certain task (Bandura, 1994). Derived from the general self-efficacy concept, entrepreneurial self-efficacy is a concept which is studied in the research on entrepreneurship, as one type of the occupation-specific self-efficacy. Entrepreneurial self-efficacy is self-assessed capability to successfully perform various entrepreneurial activities, such as: identification of profitable opportunities, acquiring resources, new venture creation and managing own business (DeNoble, Jung, & Ehrlich, 1999; Kickul et al., 2009; McGee, Petersen, Mueller, & Sequeira, 2009; Mueller & Dato-on, 2013). It is an adequate conceptual tool for explaining entrepreneurial behavior, since studies find that it influences choices, effort and persistence (McGee et al., 2009). Although self-efficacy is not necessarily related with the actual skills, knowledge and competencies that someone has, this subjective perception may be an important predictor of one's behavior (Drnovšek, Wincent, & Cardon, 2010). This is why the entrepreneurial self-efficacy is a relevant variable in entrepreneurship studies. Generally, there are two streams of research on entrepreneurial self-efficacy. One refers to the entrepreneurial self-efficacy as a determinant of entrepreneurial intents which lead to business start-up. The other is related to the entrepreneurial self-efficacy's relationship with the entrepreneurial business performance. This paper contributes to the second branch of research.

There are many determinants of business success of an entrepreneurial venture. Factors that relate to entrepreneur's personality are expected to be important for success of his/her business given the fact that an entrepreneur is the owner and the manager of the business (Dessyana, Prihatin, & Riyanti, 2017). According to the Theory of planned behavior (Ajzen, 2005), self-perceived personal ability to realize and control certain behavior is one of the factors which influence the behavior itself. This element of Ajzen's model of planned behavior is very similar to the concept of self-efficacy. Because entrepreneurs see their behavior (or tasks they are undertaking) as related to the outcomes (Drnovšek, et al., 2010), the link between the behavior and business success (outcome) becomes clear. If an entrepreneur's behavior affects the outcomes (e.g.

business success) that he/she achieves, then it is fair to expect that there is certain relationship between the entrepreneurial self-efficacy (which determines the behavior itself) and the business success as one of the outcomes of entrepreneurial behavior.

The link between the entrepreneurial self-efficacy and an entrepreneur's behavior and subsequently its outcomes, can be discussed within the framework of the Social learning theory. Within this theoretical framework it should be expected that an entrepreneur with high entrepreneurial self-efficacy is highly motivated and believes in his/her abilities to perform entrepreneurial tasks, sets challenging goals, invests effort and shows persistence in accomplishing these goals (Trevelyan, 2011). A person with higher self-efficacy tends to be more persistent and work harder, thus increasing the likelihood of achieving his/her goals (Dessyana et al., 2017). The entrepreneurial self-efficacy is an important determinant of entrepreneurship because the process of founding and running one's own business is associated with various obstacles. Those who are more persistent in achieving their goals, have a better chance of succeeding (Cardon, & Kirk, 2015). Higher entrepreneurial self-efficacy may increase the confidence of the entrepreneur to face the uncertainty of the environment which can lead to setting goals that are more ambitious.

There is empirical evidence that individuals with higher entrepreneurial self-efficacy set more ambitious goals, show more persistence and work harder. All of the previous contributes to the achievement of goals. To achieve business success is undoubtedly a goal of business owner and manager, so it is not surprising that a significant number of studies find that entrepreneurial self-efficacy is positively associated to the entrepreneurial business performance (for systematic review of studies see Miao et al., 2017; Newman et al., 2019). For example, Cliff (1998) and Pollack, Burnette, & Hoyt (2012) state that owner's self-assessed capability determines his/her intention to grow his/her business. Hmieleski & Baron (2013) find that the entrepreneurial self-efficacy is a robust predictor of business performance. The higher the level of the entrepreneurial self-efficacy, the higher the level of self-confidence in the ability to successfully manage growing business. The rationale of this relationship is that the entrepreneurial self-efficacy helps in transforming the entrepreneur's beliefs into efforts which leads to better business performance (Miao et al., 2017).

Within the presented framework, the first hypothesis is defined as follows:

H1: Entrepreneurial self-efficacy is positively correlated to business success of entrepreneurs in the Republic of Serbia.

Entrepreneurial self-efficacy as a self-rated ability to successfully perform entrepreneurial activities can be measured along different dimensions. Very often, this general ability can be judged upon self-assessed ability to perform tasks that refer to different aspects of business activi-

ties, such as: marketing, finance, innovation, operations management, information technology/e-commerce and general management activities (planning, organizing and controlling). Examining the relationship between different dimensions of self-efficacy and business success is seen as a more precise way to explore the determinants of business success (Cumberland et al., 2015). When decomposed in such a way, the relation between the entrepreneurial self-efficacy and business success may not be uniform. In fact, there are studies which suggest that there are differences in the intensity of the correlation between different subcomponents of the entrepreneurial self-efficacy and business success (Lerner, & Almor, 2002). In line with the previous, the following hypothesis is defined:

H2: There are differences in how various dimensions of the general entrepreneurial self-efficacy are related to business success of entrepreneurs in the Republic of Serbia.

METHODOLOGY

Sample units were randomly drawn from the Serbian Business Register Agency's data base for urban areas of the Republic of Serbia. Random sample consisting of owners of micro, small and medium sized enterprises and individuals registered as entrepreneurs was obtained. Questionnaire containing closed-ended questions was distributed by email or was physically distributed to the sample units. Sample-related data are shown in the Table 1.

Table 1 Research sample size and structure

Sample size		
	Returned questionnaires	Operative sample (units without missing data)
	101	86
Sample structure		
Gender of the owner-manager		
	Number	Share (%)
Female	26	30.23
Male	60	69.77
Total	86	100.00
Operating sector		
	Number	Share (%)
Production	18	20.93
Services	68	79.07
Total	86	100.00

Source: Authors' calculations

One hundred and one completed questionnaires were received. Data on business performance of sample units were gathered from their income statements. Nevertheless, data on business performance for 15 units were missing which reduced the operative sample to 86 units. Unfortunately, with no publicly available datasets on SMEs' business success indicators (other than their publicly available financial statements), and without entrepreneurs' readiness to share these data with researchers, we were once again faced with the choice: either to research with available (though maybe incomplete) data, or not to research at all (Bönte & Piegeler, 2012). We chose to research.

In order to examine whether and how one personal characteristic such as the entrepreneurial self-efficacy is linked to the business success, both owning and managing the business were the criteria for qualifying as an adequate sample unit. Therefore, the respondents were asked whether they were the owners of the business, and whether they had an important role in making strategic and tactic decisions. All of the 86 respondents stated that they were the owners of the business making the strategic and day-to-day business decisions.

Less than one third of the sample units are female entrepreneurs (30.23 percent). The proportion of female entrepreneurs in the sample is comparable with one presented by Babović (2012: 46) who finds that women own 28.9 percent of businesses in Serbia (Binomial test $p=0.433$, 1-tailed). Similarly, National Agency for Regional Development (2013: 7) reports that women-owned businesses account for 32.8 percent of all businesses in Serbia (Binomial test $p=0.352$, 1-tailed). Only 20.9 percent of the sample units are businesses in the production related activities which corresponds to the national level data (Binomial test $p=0.172$, 1-tailed) which suggest that 74 percent of Serbian SMEs and entrepreneurs operate in the service industries, while 26 percent of them are businesses in manufacturing industries (MERS & NARD, 2014: 8).

Building on previous studies (for example: Hisirch & Brush, 1984; Chen, Greene, & Crick, 1998; Walker & Webster, 2006; Díaz-García & Jiménez-Moreno, 2010), entrepreneurial self-efficacy variable was captured through several aspects, such as self-assessed knowledge and competences in the area of marketing, finance, innovation, operations management, ICT/e-business, human resources and general management. All these components of the entrepreneurial self-efficacy were measured using the five-point Likert scale. Sample units rated their knowledge and skills from 1 (insufficient) to 5 (excellent) in the above-mentioned areas¹,

¹ The question was defined as follows:

Please use the adequate grade to evaluate the extent to which you consider that you possess knowledge and skills in the following areas (1-insufficient 2-sufficient 3-good 4-very good 5-excellent): general management (business planning, organization,

with higher scores indicating higher entrepreneurial self-efficacy beliefs. The internal consistency of this scale was high as assessed by Cronbach's alpha values ($\alpha=0.852$ without a possibility to improve it by deleting any of the items).

As the entrepreneurship research is dominantly focused on measuring the organizational-level outcomes captured by financial indicators (Baron & Henry, 2011), business performance or success of entrepreneurs was judged upon net profit they have realized. Additionally, as it is suggested to combine various indicators so that the business success can be better understood (Carbera & Mauricio, 2017), one composite indicator of business success (CIBS) was created, consisting of: operative income, net profit and number of employees. Together with the operative income, the number of employees is recognized by Serbian law as a measure of business size². As the growth and therefore the size of a business can be a reflection of successful business performance, this composite measure is formed out of the most frequently used indicators of business size (Parker, 2009; Storey, 2010). For creating this composite index, the Principal Component Analysis was applied at the weighting stage in order to adequately determine the weights of the variables included in the CIBS indicator. Weights were calculated according to the factor loadings. The highest relative importance in the structure of the CIBS was given to the net profit. The relation between the selected variables has been examined by *Spearman's rho* correlation coefficient.

RESULTS AND DISCUSSION

Empirical results show that entrepreneurs in the Republic of Serbia are most confident in their skills in the area of general management since this dimension of the entrepreneurial self-efficacy has the highest average score (3.723). On the other hand, entrepreneurs are the least confident in their abilities in the area of ICT/e-business. The average score for this dimension of the entrepreneurial self-efficacy is the lowest (3.240) and has the highest dispersion of individual scores (standard deviation=1.102). The average scores, as well as the dispersion of individual scores for entrepreneurial self-efficacy and its components are shown in Table 2.

control); marketing; finance; innovation; operations management; human resources management; and ICT/e-business.

² Third formal criteria for determining the business size is the size of the firm's assets. This indicator was not included because it is widely accepted that it is not adequate for assessing the size and growth of small businesses, especially those in low capital-intensive sectors, such is the service sector (Delmar, 2006).

Table 2 Descriptive statistics of self-efficacy indicators

Self-efficacy indicators	Mean	Standard Deviation
General	3.511	0.775
General management	3.723	1.011
Marketing	3.360	1.049
Finance	3.630	1.031
Innovation	3.450	1.067
Operation Management	3.606	1.095
Human Resources Management	3.584	1.032
ICT/e-business	3.240	1.102

Source: Authors' calculation

The general indicator of the entrepreneurial self-efficacy is positively correlated to business success of entrepreneurs in the Republic of Serbia measured by both net profit ($r_s=0.164$, $\text{sig}=0.131$) and by CIBS ($r_s=0.157$, $\text{sig}=0.149$) (Table 3). Although without statistical importance, the expected positive nature of the relation (H1) is confirmed at the sample level, confirming the expectation that entrepreneurs who better assess their overall ability to carry out entrepreneurial activity successfully, achieve higher profit and operating income and employ more people. Similarly, Forbes (2005) has found that the entrepreneurial self-efficacy is positively correlated to various measures of business performance. Investigating various determinants of entrepreneurial business success, Dessyana et al. (2017) conclude that the entrepreneurial self-efficacy which is measured with one holistic multidimensional measure is a significant predictor of financial business performance of entrepreneurial ventures.

Observed separately, all dimensions of the entrepreneurial self-efficacy are positively correlated to net profit, but the intensity of the correlation varies (Table 3). The strongest link exists between self-assessed competences in general management and the net profit ($r_s=0.185$, $\text{sig}=0.089$), while the net profit is almost uncorrelated to self-rated ability to manage human resources ($r_s=0.004$, $\text{sig}=0.968$).

Table 3 Spearman's rho correlation coefficients between entrepreneurial self-efficacy indicators and business success indicators

Self-efficacy indicators	Net profit	CIBS
General	0.164 (sig. 0.131)	0.157 (sig. 0.149)
General management	0.185 (sig. 0.089)	0.236 (sig. 0.029)
Marketing	0.183 (sig. 0.093)	0.115 (sig. 0.296)
Finance	0.030 (sig. 0.782)	-0.020 (sig. 0.858)
Innovations	0.183 (sig. 0.093)	0.070 (sig. 0.526)
Operation Management	0.102 (sig. 0.358)	0.151 (sig. 0.169)
Human Resources Management	0.004 (sig. 0.968)	0.092 (sig. 0.401)
ICT/e-business	0.166 (sig. 0.128)	0.066 (sig. 0.550)

Source: Authors' calculation

As to the interdependence between individual dimensions of the entrepreneurial self-efficacy and the CBIS, statistically significant correlation was found to exist between the self-efficacy in the field of general management and the composite index of business success ($r_s=0.236$, $\text{sig}=0.029$). This correlation is positive and the strongest, relative to other dimensions of the entrepreneurial self-efficacy. Almost all other dimensions of the entrepreneurial self-efficacy are also positively correlated to the business success. Surprisingly, the exception is the self-efficacy in financial management which is negatively correlated to the composite measure of entrepreneurs' business success ($r_s= -0.020$, $\text{sig}=0.858$). Although not expected, this result is in line with one presented by Storey (2010) who argues that entrepreneurs with experience in financial management have more conservative approach to the growth of their businesses. So, it is possible that entrepreneurs that have higher self-efficacy in finance are more oriented toward financial performance measures and therefore more cautious toward growth which can be risky and which can endanger financial performance of the firm. Newman et al. (2019) offer another possible explanation of this negative link as they find that high levels of the entrepreneurial self-efficacy may encourage extreme risky behavior of an entrepreneur, which can negatively influence his/her business success or even survival. Very high level of entrepreneurial self-efficacy can be linked to overconfidence and over-optimism which in turn may have positive but also a negative effect on the entrepreneurial business performance.

The difference in the intensity of the positive correlation between various dimensions of entrepreneurial self-efficacy and the business success can be seen as a confirmation of the second hypothesis. With the exception of the self-efficacy in finance which is found to be negatively correlated to holistically measured business success, other results correspond to those presented by Cumberland et al. (2015) who find that different dimensions of entrepreneurial self-efficacy are positively associated with firm performance. Higher self-efficacy of entrepreneurs in the Republic of Serbia is related to higher net profit and higher value of the composite index of business success. More specifically, this study finds that entrepreneurs who believe more strongly in having marketing, innovation, operations management, human resources and ICT-related knowledge and competences needed for successfully operating their business ventures, are the ones who earn higher profits and operating income, and those who have more employees. The rationale for this relationship may be the possibility that entrepreneurs who have stronger belief in their own abilities to successfully perform various entrepreneurial tasks, may strive to more ambitious and challenging goals and be more committed to their accomplishment (Khedhaouria, Gurău, & Torrès, 2015; Pollack et al., 2012; Zhang et al., 2019). Dessyana et al. (2017) argue that entrepreneurs with

higher self-efficacy are more adventurous and more willing to accept the challenges and new things which may explain the positive link between their high self-efficacy and better business results. Moreover, higher self-efficacy and higher self-confidence may help entrepreneurs in dealing with suppliers, buyers, employees and other stakeholders making them more prone to risks which are associated to the business performance growth. As Newman et al. nicely summarize it: “Entrepreneurship not only involves risk-taking, uncertainty, creativity, leadership and proactivity, but also requires persistence and passion. For all these factors, entrepreneurial self-efficacy is highly relevant” (2019: 404).

CONCLUSIONS

Entrepreneurial self-efficacy is an important determinant of both entrepreneurial intentions and success as it makes an entrepreneur to be more persistent while dealing with various obstacles and challenges of starting and running a business (Zhang et al., 2019). The entrepreneurial self-efficacy is becoming an unavoidable construct in research on entrepreneurship because results show that it affects entrepreneur’s motivation, intention, behavior and performance (Newman et al., 2019).

The study presented by this paper adds to the empirical results that suggest that the entrepreneurial self-efficacy is positively correlated to the business success of the entrepreneurial ventures. The link between holistically measured entrepreneurial self-efficacy and business success that was found to exist in the sample of entrepreneurs operating in the Republic of Serbia, although not statistically significant, is positive as expected. Moreover, positive correlations were recorded when different dimensions of the entrepreneurial self-efficacy were analyzed. The exception is the self-assessed competence in financial management which is negatively correlated to the composite index of business success.

With the exception of positive correlation between entrepreneurial self-efficacy in general management and composite measure of business success, all other relations are not statistically significant. This endangers the generalizability of the results. Moreover, correlations coefficients that are recorded indicate interconnections that are not that strong. This study is limited to entrepreneurial self-efficacy which is one of the possible performance determinants. Therefore, it is possible that just a small part of the entrepreneurial venture’s business success can be explained by the entrepreneur’s self-efficacy. Nevertheless, positive relations were found in the majority of the examined cases. This encourages further research on the subject, especially because this is an under-researched field in the Serbian context.

The knowledge that entrepreneurial self-sufficiency is positively correlated with the success of entrepreneurial ventures can have signifi-

cant implications for policy makers and educators. As previously noted, education and training are one of the antecedents of the entrepreneurial self-efficacy. Newman et al. (2019) list studies that suggest that the entrepreneurial self-efficacy can be enhanced by entrepreneurial education and training programs. And enhancing the entrepreneurial self-efficacy is important not only for increasing the number of entrepreneurial ventures but for their business success as well.

Although most agree that the entrepreneurial self-efficacy is a multidimensional phenomenon, in many studies it is measured throughout limited number of dimensions, or even through just one (McGee et al., 2009). Some of the studies are designed to measure this variable along multiple dimensions, but then they are taking the overall average score as a measure of the entrepreneurial self-efficacy (see Chen et al., 1998). The obvious shortcoming of this approach is that when taking a composite measure, it is not possible to see which aspect of the entrepreneurial self-efficacy is more significant for the researched phenomenon. As it mentioned before, the entrepreneurial self-efficacy can be improved by education. But, when research results are obtained on the basis of a composite measure, they cannot suggest which areas of education and training are most important for strengthening exactly those elements of the entrepreneurial self-efficacy which are most relevant for the entrepreneurial intentions and business success. Therefore, a more detailed research on the entrepreneurial self-efficacy can reveal differences in the nature and the intensity of the link between different components of this multidimensional construct and the business success. This paper is a move in that direction. The underlying conclusion is that if certain aspects of the entrepreneurial self-efficacy have stronger positive correlation to business success, than those aspects should be emphasized in education and training programs. The present study reveals that skills, knowledge and competencies in general management activities are the most strongly positively related to the net profit and composite measure of business success, thus suggesting the direction of educational measures aimed to improve the entrepreneurial self-efficacy and business success of entrepreneurs in the Republic of Serbia.

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ПРЕДУЗЕТНИЧКА САМОЕФИКАСНОСТ И ПОСЛОВНИ УСПЕХ ПРЕДУЗЕТНИКА У РЕПУБЛИЦИ СРБИЈИ: ПИЛОТ СТУДИЈА

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Резиме

Сврха истраживања које је представљено овим радом је да се испита однос између предузетничке самоефикасности као компоненте хуманог капитала предузетника у Србији и њиховог пословног успеха. Имајући у виду да је хумани капитал предузетника сложена варијабла (Coleman, & Robb, 2009; Lee, Jasper, & Fitzgerald, 2010)), постоји потреба да се оцени природа односа између различитих компоненти хуманог капитала и пословног успеха предузетника. Један од најмање истраживаних елемената хуманог капитала у овом контексту је предузетничка самоефикасност. Предузетничка самоефикасност је конструкт који показује како појединац оцењује сопствене способности да обавља предузетничку активност (Miao, Qian, & Ma, 2016) Миао, Циан, & Ма, 2016). Што се тиче истраживачке операционализације овог феномена, предузетничка самоефикасност појединца се може мерити јединственим мерилом, као општа или генерална предузетничка самоефикасност. Такође, будући да је и сама сложена варијабла, предузетничка самоефикасност се може декомпоновати и мерити дуж својих различитих димензија.

Полазећи од резултата истраживања која су спроведена у другим националним оквирима, дефинисано је очекивање да између генералне предузетничке самоефикасности предузетника у Србији и њиховог пословног односа постоји позитивна корелација. Такође, хипотеза је да постоји разлика у природи односа између различитих димензија предузетничке самоефикасности и пословног успеха предузетника у Србији.

Резултати истраживања које је спроведено на узорку од 86 случајно узоркованих малих и средњих предузећа и предузетника (из базе Агенције за привредне регистре Републике Србије), потврђују највећи број очекиваних односа између посматраних варијабли. Наиме, општа предузетничка самоефикасност је позитивно корелисана са пословним успехом предузетника, без обзира да ли се пословни успех мери оствареним нето добитком или композитним индексом који, поред нето добитка, уважава и пословни приход и број запослених. Такође, идентификоване су и разлике у природи односа између различитих димензија предузетничке самоефикасности и пословног успеха. У највећем броју случајева постоји позитивна корелациона веза између различитих димензија предузетничке самоефикасности и пословног успеха (без обзира како се он мери). Разлика у природи односа се огледа у јачини ове позитивне повезаности, при чему је најјача позитивна веза регистрована између предузетничке самоефикасности у домену општег менаџмента и композитног индекса пословног успеха., док је најслабија позитивна веза идентификована између предузетничке самоефикасности и оствареног нето добитка. Изузетак од позитивног односа јесте предузетничка самоефикасност у домену пословних финансија која је негативно корелисана са пословним успехом када се он мери композитним индексом.

Уз уважавање резултата других студија хуманог капитала предузетника у Србији, представљено истраживање треба да допринесе потпунијем разумевању

позадине пословних перформанси предузетника у Србији. Такође, пружањем основа за разумевање односа између предузетничке самоефикасности и пословног успеха, резултати истраживања могу да усмере дефинисање мера подстицаја и подршке предузетничкој активности у Републици Србији, као што су различити програми обука и тренинга, али и предузетнички курикулуми и силабуси који се реализују у образовном систему Србије.

FACTORS AFFECTING OPPORTUNITY AND NECESSITY-DRIVEN INTENTIONS OF ENTREPRENEURS: THE CASE OF SOUTH EAST EUROPE

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Abstract

We investigated the factors influencing the intention of entrepreneurs driven by opportunity (ODE) and entrepreneurs driven by necessity (NDE) in the countries of South-East Europe (SEE). The aim of the paper was to identify the key factors of entrepreneurial intentions of ODE/NDE and to propose measures the application of which can transform NDE into ODE and increase the contribution of total entrepreneurial activity to economic development. The Binomial Logistics Regression and Ordinary Logistics Regression were applied, using data for 125,444 entrepreneurs in seven countries of SEE. Our findings highlight that the intention of ODE is most influenced by entrepreneurial knowledge and experience, entrepreneurial alertness and social contacts and networks, while unemployment (as a work status) and low household income have a significant impact on the intention of NDE. The fear of failure has a negative influence on the intentions of both groups of entrepreneurs, but its impact is much more accentuated in NDE than in ODE.

Key words: entrepreneurial intention, opportunity-driven entrepreneurs, necessity-driven entrepreneurs, Theory of planned behavior, South-East Europe

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АНАЛИЗА ФАКТОРА КОЈИ УТИЧУ НА НАМЕРЕ ПРЕДУЗЕТНИКА ВОЂЕНИХ МОГУЋНОСТИМА/НУЖНОШЋУ У ЈУГОИСТОЧНОЈ ЕВРОПИ

Апстракт

У раду су анализирани фактори који утичу на намере предузетника вођених могућностима и предузетника вођених нужношћу у земљама Југоисточне Европе. Циљ рада је био да се идентификују фактори који имају велики утицај на намере предузетника вођених могућностима и намере предузетника вођених нужношћу, и предложе мере чија примена може подстаћи развој предузетништва заснованог на могућностима у земљама Југоисточне Европе (ЈИЕ) како би се повећао допринос укупне предузетничке активности привредном развоју. На узорку од 125.444 предузетника из седам земаља ЈИЕ применом метода бинарне логистичке регресије и ординарне логистичке регресије, открили смо да највећи утицај на намере предузетника вођених могућностима имају: знање, вештине и искуство у области предузетништва, предузетничка будност и успостављени контакти, и друштвена умреженост, док су кључни фактори који утичу на намере предузетника вођених нужношћу: незапосленост и ниска породична примања. Истраживање је такође показало да страх од неуспеха има негативан утицај на обе групе предузетника, али је његов утицај много наглашенији код предузетника вођених нужношћу него код предузетника вођених могућностима.

Кључне речи: предузетничка намера, предузетници вођени могућностима, предузетници вођени нужношћу, Теорија планираног понашања, Југоисточна Европа.

INTRODUCTION

New ventures as outputs of entrepreneurial activities, as well as the phenomenon of starting new organizations, is one of the central topics in the field of entrepreneurship (Shepherd et al., 2020), due to the fact that new ventures trigger economic development and increase employment (Carree & Thurik, 2010; Van Steal et al., 2018). But the establishment and development of new ventures is very difficult and risky.

The presence of entrepreneurial intention is the first condition for establishing a new venture. While entrepreneurial motivation is necessary to translate entrepreneurial intention into action of starting a new venture, according to the Global Entrepreneurship Monitor (GEM), there are two dominant motives that drive individuals to start new ventures: opportunity and necessity (Block & Sandner, 2009). In this regard, there are two different types of entrepreneurs. Opportunity-driven entrepreneurs (ODE) start their own business as a result of perceived business market opportunities, whereas necessity-driven entrepreneurs (NDE) perceive entrepreneurship as a last resort and start a business because they either do not have other employment options, or such options are unsatisfactory (Bosma & Kelley, 2019).

Previous research shows that the importance of ODE for economic development and employment is much larger compared to NDE (Valliere & Peterson, 2009). According to GEM data, the number of NDEs is high in most SEE countries and exceeds the number of ODE (Bosma & Kelley, 2019). For these reasons, the importance of entrepreneurship for the economic development in SEE is smaller compared to other parts of Europe (Ivanovic-Djukic, et al., 2018). In order to improve this situation, it is necessary to encourage the development of ODE, at the expense of NDA. It is desirable to analyze the factors of entrepreneurial intentions of both groups of entrepreneurs and identify those that have a much greater impact on ODE.

According to the Theory of planned behavior (Ajzen, 2012) entrepreneurial intentions depend on their beliefs (Estay, Durrieu & Akhter, 2013). According to this theory, significant factors of entrepreneurial intent could be the specific set of personal characteristics of an individual (Block & Sandner, 2009; Pinillos & Reyes, 2011) as well as entrepreneurial education, skills, and experience (Taormina & Lao, 2007). Also the work status and household might have a direct influence on the entrepreneurial intentions and motives (Stephan et al., 2015). This paper will examine the impact of various factors on the entrepreneurial intentions of ODE and NDE in SEE countries. The aim of the paper is to identify the key factors of entrepreneurial intentions and to propose measures the application of which can transform NDE into ODE and increase the contribution of entrepreneurship to the economic development in SEE countries.

The paper first gives an overview of literature according to the factors determining entrepreneurial intentions. The next part of the paper explains the methodology. The final part of the paper presents the results, discussion, conclusion and recommendations for the macroeconomic policy.

THEORETICAL BACKGROUND

Becoming an entrepreneur is a planned and intentional behaviour. The best predictors of entrepreneurial behaviour are intention, personality or demographics, but not attitude (Kautonen, et al., 2013). Entrepreneurial intention is a mental state that represents a commitment to start a new business, whereby the point of venture realisation is not determined in the future (Krueger et al., 2000). According to the Theory of Planned Behavior, entrepreneurial intention depends on three different beliefs: a) beliefs about the consequences of the behaviour (success in performing certain behaviour), b) beliefs about the presence of factors that might initiate behaviour (subjective norms) and c) beliefs about expectations of other people (perceived behavioral control) (Ajzen, 2012).

Beliefs about the consequences of the behaviour represent the extent to which people think that they will be successful in performing cer-

tain behaviour. Previous research shows that fear of failure and entrepreneurial alertness have a great influence on these beliefs, as well as on the motives of entrepreneurs (Dumitru & Dumitru, 2018).

Fear of failure combines a set of feelings, emotions, evaluation and exploitation of business opportunities and affects the entrepreneurial intentions of all entrepreneurs (Cardon et al., 2012). According to the motivational approach, fear of failure is a negative emotion that discourages entrepreneurs even before they start a new business (Patzelt & Shepherd, 2011). Emotional experience as an outcome of the fear of failure activity diminishes entrepreneurial intention for starting a new business, hampering self-efficacy of potential entrepreneurs (Mitchell & Shepherd, 2010). Examining the link between fear of failure and entrepreneurial motivation, Block et al. (2015) and Morgan & Sisak (2015) found that fear of failure has a demotivating effect on less ambitious entrepreneurs who are most often necessity-driven, but its impact on highly ambitious entrepreneurs (who are most often opportunity-driven) is positive.

Entrepreneurial alertness is an ability of a person to perceive and exploit business opportunities (Lall & Sahai, 2008). Nishimura and Tristan (2011) found that entrepreneurial alertness, i.e. perceived business opportunities, has the most significant effects on the decision to start a new business. Moreover, perceived business opportunities determine the form and direction of early-stage entrepreneurial ventures; they are closely related to entrepreneurial intentions of only ODE (Tsai et al., 2016; Suchart, 2017; Dumitru & Dumitru, 2018).

Our first hypothesis is:

H1: Entrepreneurial alertness and fear of failure as factors associated with beliefs in the success of an entrepreneurial business, is in positive relation with the intention of opportunity-driven entrepreneurs.

The Theory of Planned Behaviour suggests that the appraisal of entrepreneurship knowledge, skills and experience might have direct influence on the entrepreneurial intentions and motivation due to the fact that they might encourage entrepreneurial behaviour. Entrepreneurial activity depends largely on how people perceive the feasibility of the new business. Entrepreneurial skills and knowledge make it easier for an individual to recognize market opportunities and start a new business. Entrepreneurial experience, which includes the time the entrepreneur has spent running the business as well as the time it took him/her to make business decisions, affects the efficiency of current and future decision-making as well as the entrepreneurial motivation (Genty et al., 2015). Furthermore, the entrepreneur's perception of having certain skills is correlated with the level of self-confidence, which is supported by the Theory of Social Learning (Arenius & Clerck, 2005; El-Hadary, 2018). In an empirical study dealing with nascent entrepreneurs, Arenius & Clerck (2005) noticed a high correlation between entrepreneurial skills and knowledge, and entrepreneurial

motives for starting new business ventures. Similarly, Boudreaux et al. (2018) point out that entrepreneurs with a higher level of awareness of their abilities and skills are more interested in starting a new business driven by opportunities, observed relative to the necessity-driven entrepreneurs who have a lower level of knowledge, skills and experience (KSE's).

The next factor which has been identified as a significant determinant of entrepreneurial intention, in a large number of studies, are established social contacts and social networks (Klyver & Hindle, 2014). Entrepreneurs use connections and contacts as a tool for optimizing entrepreneurial ventures (Soderquist, 2011). Social networking boosts entrepreneurial confidence, encourages perception and motivation of entrepreneurs, creating the opportunities more efficiently. Klyver & Hindle (2014) found that ODE is characterized by active involvement in social networking, which is not the case with NDE. Social networking, entrepreneurial alertness and acquired knowledge of the market and consumers are crucial for the intention of ODE (Ardichvili & Cordozo, 2000).

Our second hypothesis is:

H2: Entrepreneurship knowledge, skills and experience, social contacts and networking, are factors that might encourage entrepreneurial behavior and they are in positive relation with opportunity-driven entrepreneurs.

Beliefs about expectations of other people result in a subjective norm, which means the perceived social pressure to perform a particular behavior (Ajzen, 2012). Family expectations can put strong pressure on an individual and influence his or her entrepreneurial intentions, especially for people who are unemployed and have low household income. Borgia (2005), using GEM data for 28 countries, identified household income and work status as factors which have a significant effect on nascent entrepreneurship. These factors have the greatest impact on entrepreneurs driven by necessity (Pete et al., 2011). Previous research shows that work status, *unemployment*, is most often analyzed in studies relative to necessity motivation. Stephan et al. (2015) have proven that unemployment is one of the key motives for NDE. Unemployment results in low household income. Unemployed persons with low household income perceive great family pressure to start their own business and increase household income.

The beliefs and perception of ODE is completely different compared to NDE. Employed people have entrepreneurial intentions only if they recognize the opportunity which can improve their existing status (Stephan et al., 2015). Household income can also be an important factor of entrepreneurial intentions of ODE. Group of authors point out that entrepreneurs from developed countries that have a higher degree of entrepreneurial initiative, expect higher income (Alvarez & Urbano, 2011). Higher incomes can provide entrepreneurs a greater financial independence and thus, more opportunities and chances to start new ventures (Stephan et al., 2015). We believe that the sit-

uation is similar in the countries of Southeast Europe. According to the previous statements we assume that:

H3: Work status and household income are in positive relation with the intention of opportunity-driven entrepreneurs

METHODOLOGY

The Methodology of this paper is structured as follows: Context of the research, Research sample and Empirical results.

Context of the Research

Southeast Europe (SEE) is a geographical region of Europe, consisting primarily of the coterminous Balkan Peninsula. There are overlapping and conflicting definitions as to where exactly Southeastern Europe begins and ends, or how it relates to other regions of the continent. Sovereign states and territories that are included in the region are: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Greece, Montenegro, Macedonia, Moldova, Romania, Serbia, East Thrace (part of Turkey) and Slovenia.

According to Porter's classification, the countries of SEE are mostly classified as efficiency-driven countries, i.e. middle-income countries. Except Greece and Slovenia, which are categorized as innovation-driven countries, and which are characterized by using the innovative products, highly developed market conditions and developed economy.

Entrepreneurs from the SEE are characterized by common cultural and historical heritage and similar economic environment. Entrepreneurs from this area are united by the challenges of the turbulent period of transition, reforms and general, global crisis, which has inevitably affected business activities (World Bank Group, 2016). The mortality rate of companies is still high. On the other hand, there is an increase in the rate of establishment of small and medium enterprises. These entrepreneurs have been successfully or less successfully tackling the challenges of entrepreneurship for years. Entrepreneurs have been given support at the national level aimed at more efficient entrepreneurial ventures and accomplishing goals in the field of entrepreneurship.

Research Sample

Research sample includes 7 of the 11 above mentioned countries from SEE region (Albania, Moldova, Turkey and Montenegro are excluded due to lack of data). The empirical research of this paper was conducted based on GEM database. The GEM project covers more than 72.4% of the world population and 90% of world GDP (Dezsi-Benyovszky et al., 2015). Data collected from country-participants are summarized in a da-

tabase that is published annually. According to the established standard, each country provides answers for a minimum of two thousand entrepreneurs. Participating countries have access to the most recent data for the previous business year, while non-member countries can download data with a lag of three to four business years. Respondents of GEM database consists of individuals aged 18-64 years. This research covers a sample of the total of 125,444 entrepreneurs.

Research Variables

We explore the impact of the aforementioned factors on the intentions of ODE/NDE. Motives of entrepreneurial intention are chosen as the dependent variable (Q1K1). Data were collected in response to a question: Are you involved in this start-up to take advantage of a business opportunity or because you have no better choices for work? The Q1K1 variable is of the categorical type with offered answers: take advantage of business opportunity (1), no better choices for work (2), combination of both (3), have a job, but seek better opportunities (4) and other (5). Of the four groups of the Q1K variable answers, two groups of answers were made by recoding variables: 1) Opportunity entrepreneurs guided by the opportunity motives, as a combination of the answers offered (1) and (4) and 2) Entrepreneurs motivated by necessity motives, as a combination of offered answers (2) and (3).

Factors of entrepreneurial intentions represented independent variables. Data for entrepreneurial alertness were answers to the question: "In the next six months, will there be good opportunities for starting a business in the area where you live?" while for Fear of failure it was: "Would fear of failure will prevent you from starting a business?" The factors which might incentivize entrepreneurial behavior were: entrepreneurship knowledge, skills and experience and *social contacts and networking*. The data represents the answers to the following questions: "Do you have the knowledge, skills and experience required to start a new business?" and "Do you know someone personally who started a business in the past 2 years?" All the selected variables are of binary type with offered answers: Yes (1) and No (0).

Factors arising from other people's expectations were: Work status and household income. GEM harmonized work status, with offered answers: full part time (1), part time only (2), retired, disabled (3), homemaker (4), student (5), not working, other (6). GEM income recoded into thirds with offered answers: lower 33% tile (33), middle 33% tile (3467), and upper 33% tile (68100).

RESULTS AND DISCUSSION

In order to determine the impact of various factors on entrepreneurial intentions of ODE/NDE statistical data processing was approached by applying Binary and Ordinary Logistic Regressions. Regression data are shown in Table 1.

Table 1. Results of the Binomial and Ordinary Logistics Regression

Variable	Exp (beta)	Coefficient	Std. err	t-statistics	p-value
Personal characteristics and factors that might initiate entrepreneurial behaviour					
Fear of failure	0,74	-0,2968	0,1530	-1,9395	0,0526
Entrepreneurial alertness	2,13	0,7569	0,0879	8,6104	0,0000
Social Networking	1,04	0,0421	0,0209	2,0167	0,0438
Knowledge, Skills and Experience	2,61	0,9593	0,0601	15,9562	0,0000
Work status					
Full part time	1,04	0,0352	0,0088	3,9843	0,0001
Part time only	1,36	0,3094	0,1023	3,0236	0,0025
Retired, disabled	0,96	-0,0376	0,0063	-5,9326	0,0000
Homemaker	1,04	0,0401	0,0094	4,2713	0,0000
Student	1,33	0,2840	0,0726	3,9099	0,0001
Unemployed	Basic Scenario				
Household income					
Lower 33%	Basic Scenario				
Middle 33%	2,12	0,7512	0,0855	8,7905	0,0000
Upper 33%	1,47	0,3862	0,1060	3,6443	0,0003

Source: Authors' analysis, based on GEM data

Results of regression analysis, for all countries of the sample observing the part of examining the influence of various factors on entrepreneurial intention, indicate that entrepreneurial alertness has a positive effect on intention of ODE (0.7569), at the 0.05 level of significance, which gives by 2.13 times greater likelihood of ODE compared to the NDE. The fear of failure is the only factor which has a negative impact on employee motivation (0.2968), at 0.10 level of significance. The fear of failure has a more pronounced demotivating effect on the NDA compared to the ODA. Based on these results we reject the first hypothesis.

The determinants that have the greatest impact on entrepreneurial intentions are entrepreneurship skills, knowledge and experience (0.9593) at the 0.05 level of significance; their impact is 2.61 times greater on ODE compared to NDE. The social networking variable also has a positive impact on entrepreneurial motivation, but its incentive for entrepreneurial behavior is significantly lower compared to knowledge, experience and skills in the field of entrepreneurship (0.0421). Social networking of entrepreneurs gives 1.04 times higher probability of opportunity motivation observed relative to the necessity motivated entrepreneurs.

Our second hypotheses that entrepreneurship knowledge, skills and experience and social contacts and networking have a greater impact on opportunity-driven entrepreneurs compared to necessity-driven entrepreneurs is confirmed.

The results of the empirical research indicate that *work status* has a significant impact on entrepreneurial motivation, at the 0.05 level of significance. Status not working, retired and disabled encourage the development of NDE, while all other categories encourage ODE a) full-time by 1.04 times, b) part-time by 1.36 times c) homemaker by 1.04 times and d) student by 1.33 times.

The results of the regression on the *household income* indicate that it is a significant determinant of entrepreneurial motivation, at the 0.05 level of significance. The lowest income has the greatest impact on ODE (it is taken as the basic scenario). More precisely, the middle-level income gives a higher likelihood of opportunity motivation by 2.12 times, while the highest level income gives a higher likelihood of opportunity motivation by 1.47 times, compared to necessity motives. Based on these results, the third hypothesis is confirmed.

DISCUSSION

Our empirical results have shown that entrepreneurial knowledge, skills and experience have the greatest impact on ODE entrepreneurs - which is in accordance with many previous research results (Genty et al., 2015). Individuals that have knowledge in the field of entrepreneurship have a great ability to recognize chances and analyze trends on the marketplace, which can also give them a greater chance to exploit opportunities and start a new business venture that can create new organizational value. Previous entrepreneurial experience and entrepreneurial skills make management decision-making and business development driven by opportunities easier. Therefore, measures related to acquiring entrepreneurial knowledge and skills should be encouraged.

The individual characteristic with the greatest impact on the motivation of ODE is entrepreneurial alertness, which is also in accordance with the previous empirical results (Tsai et al., 2016; Suchart, 2017; Dumitru & Dumitru, 2018). Entrepreneurial alertness implies constant following of changes in the environment, which can provide entrepreneurs with favourable opportunities as the key elements of entrepreneurial intentions of ODE. It is necessary to encourage the development of entrepreneurial alertness in as many individuals from SEE countries as possible to increase the contribution of entrepreneurship to economic development.

Fear of failure is an individual characteristic that negatively affects entrepreneurial motivation (Patzelt & Shepherd, 2011). This has been

proven by a large number of previous studies (Mitchell & Shepherd, 2010; Morgan & Sisak 2015). This individual characteristic is related to an aversion against risk and attitude towards uncertainty (Block et al., 2015). Individuals with a negative attitude against uncertainty seek to avoid risks in business, accepting entrepreneurship only in the case of necessity. On the other hand, ambitious individuals see uncertainty mostly as a challenge, as the way to affirm their set of abilities and their business success. Those entrepreneurs, unlike necessity-driven entrepreneurs, much easily decide to start their own business (they have a less pronounced fear of failure), but only if circumstances can provide them successful business development driven by opportunities (Wagner et al. 2005).

The factors with a minor, but statistically significant impact on the motivation of ODE are social contacts and networking. These factors also have a greater impact on ODE than on NDE, which is in accordance with previous empirical studies (Oviatt & McDougall, 1994; Knight & Cavusgil, 1996; Soderquist, 2011); social networking, especially in the early stages of entrepreneurial activity, is crucial if we take into account the scarce resources of knowledge and experience of entrepreneurs in the initial stage of business. Significance is reflected in the fact that entrepreneurs, through the establishment of internal and external social networks with suppliers, customers, business partners, institutions, scientific and educational centers, etc., essentially perform the initiation of the database that accumulates information and data from multiple sources. Social networking takes place by exchanging information, data and knowledge itself in a way that establishes communication between participants.

Work status of the entrepreneur and the household income have a positive impact on opportunity motives only in situations when the recognized opportunity promises improve existing status or increase household income. This is in line with previous research (Taylor & Jack, 2016).

As opposed to the opportunity motives, there are necessity motives, which are in this part of the study selected as a reference value for regression analysis. If the entrepreneur is motivated by necessity motives, i.e. if he initiates new ventures for the reason of dissatisfaction with the current job or reason of unemployment, the same will bring him less likelihood of success of innovative and international entrepreneurial ventures, in contrast to opportunity motivated entrepreneurs.

CONCLUSION

The paper analyzes the factors influencing the intentions of ODE and NDE. Empirical research conducted on a sample of 125,444 entrepreneurs in 7 SEE countries showed that the motivation of ODE is most influenced by entrepreneurial knowledge and experience, entrepreneurial alertness and social contacts and connections, while the work status un-

employed and low household income have a significant impact on the motivation of NDE. The fear of failure has a negative influence on the motivation of both groups of entrepreneurs, but its impact is much more pronounced in NDE than in ODE.

In order to increase the contribution of entrepreneurship to economic growth in SEE countries, it is necessary to implement a lot of different measures in the direction of stimulating entrepreneurs driven by opportunities, as well as the transformation of NDE into ODE. Perhaps since entrepreneurship knowledge, entrepreneurial skills and entrepreneurial alertness, identified as key factors that have the greatest positive impact on opportunity-driven entrepreneurs, entrepreneurial education/training can be a key policy instrument in stimulating ODE. This kind of education/training would be especially needed for people who are unemployed or who have low household income to help them with the required skills and knowledge to identify and seize the entrepreneurship opportunities, as well as to start their business successfully.

In order to address this issue, the Government should help making the entrepreneurial training available especially to unemployed people who are forced by necessity to become entrepreneurs. Also, educational institutions can play a significant role in entrepreneurial education which can contribute to the development of entrepreneurial knowledge and entrepreneurial alertness in young people. Educational institutions are the most appropriate stakeholder in taking the initiative in promoting new business solutions driven by opportunity, and changing the mindset with regard to opportunity driven entrepreneurial attitudes. Except educational institutions, which play a leading role in supporting education and training, the corporate sector could contribute to content, curriculum and delivery mechanisms (such as on-site learning). Also, the engagement of the corporate private sector in fostering ODE can be very useful in developing entrepreneurial skills. The minimal level of engagement may be in sharing best practices, offering mentorship, providing incubators for promising new ideas, and by helping them build entrepreneurial networks.

The outcome of this study shows that the level of household income has a significant impact on entrepreneurial motives and intentions. Income inequality in SEE is one of the highest in Europe and this is a negative factor for the quality and quantity of entrepreneurship (Dumitru, Dumitru, 2018). The majority of population is financially constrained in starting a business, especially opportunity-driven entrepreneurship (which often involves a large initial capital). It should be helpful to facilitate access to finance to ODE. In general, entrepreneurs do not have access to the formal capital market, and banks are not interested in them because of the high risks. It is important to attract informal investors (business angels, venture capital funds, etc.). But, these investors want consistent regulation and the ability to move money in and out of the economy, which

is not case in SEE. For this reason, it would be useful for the government to provide prospective entrepreneurs with guarantees or other forms of security that will make it easier for them to attract investments.

Finally, our research has shown that the fear of failure has a negative impact on the intentions of entrepreneurs. Acting to decrease the fear of failure with some governmental policies may increase the number of ODE, as fear of failure was found in the estimates as being a strong impediment for opportunity-driven entrepreneurship. One idea in this direction would be to make the impact of a failure less severe, improving the bankruptcy legislation in the way to help increasing the recovery rate in case of insolvency of a business partner, or to decrease the time length of an insolvency procedure. Also, introducing the entrepreneurs to each other and stimulating the networking of entrepreneurs should be a route to stimulate ODE in SEE.

The key limitations of our study are related to the sample size and the theoretical implications. The paper is based on the empirical research conducted in the region of Southeast Europe. Through comparative analysis with similar research from other countries and regions, it identifies similarities and differences, which are the consequences of the specific situation in this region, and thus fills the gap in the literature of the region of Southeast Europe in the field of the factors affecting intensions of opportunity and necessity driven entrepreneurs. However, the question is whether conclusion related to such a small region can be relevant to whole world. The second limitation is related to the sample, since it included only seven countries out of eleven belonging to the region of Southeast Europe (due to lack of data for the other four countries).

The recommendation for future research refers to the temporal and spatial flow of research, considering that this paper emphasizes the entrepreneurial activities of the area of SEE, in the period of eight business years. Also, it can be interesting to compare the entrepreneurship of these countries with other regions, for example with countries from Western Europe. Internal factors in this paper can be extended to other factors such as socio-demographic characteristics of entrepreneurs - gender, age and education.

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АНАЛИЗА ФАКТОРА КОЈИ УТИЧУ НА НАМЕРЕ ПРЕДУЗЕТНИКА ВОЂЕНИХ МОГУЋНОСТИМА/НУЖНОШЋУ У ЈУГОИСТОЧНОЈ ЕВРОПИ

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Резиме

Покретање нових пословних подухвата је једна од најважнијих тема у области предузетништва због чињенице да они подстичу привредни развој и допринос повећању запослености. Међутим, покретање нових пословних подухвата је веома ризичан и комплексан процес.

Први услов за покретање новог подухвата је постојање предузетничке намере. Док је за претварање намере у активност покретања новог посла неопходна мотивација. Према Global Entrepreneurship Monitor (GEM), постоје два доминантна мотива због којих појединци покрећу нове послове: нужност и препозната тржишна прилика (могућност). У складу са тим разликују се две врсте предузетника: предузетници вођени могућностима (ОДЕ) који покрећу сопствени посао као резултат препознатих прилика на тржишту и предузетници вођени нужношћу (НДЕ) који предузетништво доживљавају као крајње решење и покрећу посао, јер или немају друге могућности запошљавања, или такве опције нису задовољавајуће.

Претходна истраживања показују да је значај ОДЕ за привредни развој и запошљавање много већи у поређењу са НДЕ. Међутим, у већини земаља Југоисточне Европе број НДЕ премашује број ОДЕ, због чега је вероватно допринос укупне предузетничке активности привредном развоју у овом региону мањи у поређењу са другим деловима Европе. Да би се побољшала ова ситуација, потребно је променити однос ОДЕ/ОНЕ (повећати број ОДЕ и смањити ОНЕ). У том правцу, пожељно је анализирати детерминанте предузетничке намере обе групе предузетника и идентификовати оне које имају много већи утицај на ОДЕ, што је био предмет овог рада.

Према Теорији планираног понашања предузетничке намере зависе од три групе уверења: а) уверења о последицама понашања (став према успеху у обављању одређеног посла), б) уверења о присуству фактора који могу подстаћи понашање (субјективне норме) в) веровања о очекивањима других људи (перципирана контрола понашања). У складу са овом теоријом и резултатима претходних истраживања издвојене су одређене групе фактора и испитивано је како оне утичу на предузетничке намере предузетника вођених могућностима и предузетника вођених нужношћу. Као фактори који утичу на став појединца о успеху у обављању посла издвојени су лични фактори: предузетничка будност и страх од неуспеха. Предузетничка будност је способност појединца да препозна и искористи могућности са тржишта. Показано је да ова особина има значајан позитиван утицај на намере предузетника, при чему је њен утицај далеко већи на ОДЕ у поређењу са НДЕ. Страх од неуспеха је емоција која изазива негативне ставове према успеху. Показано је да она утиче обесхрабрујуће на обе групе предузетника, али је њен утицај много наглашенији код НДЕ. Као фактори који

могу подстаћи предузетничко понашање, издвојени су: знања, вештине и искуство у области предузетништва и контакти које појединац има и његова друштвена умреженост. Показано је да знање, вештине и искуство у области предузетништва имају највећи позитиван утицај, од свих анализираних фактора, на предузетничке намере и да је њихов утицај много већи на ОДЕ у поређењу са НДЕ. Контакти и умрежавање имају такође позитиван утицај, али је он много мањи од осталих фактора. Као фактори везани за веровања и очекивања других људи (који стварају социјални притисак на појединца да покрене сопствени посао) издвојени су: радни статус и висина породичних примања. Показано је да статус незапослени и ниска породична примања имају највећи утицај на намере НДЕ предузетника, док је њихов утицај на намере ОДЕ предузетника статистички значајан само у случајевима када предузетнички посао обећава бољи статус или већа породична примања.

Рад је заснован на емпиријском истраживању које је вршено на узорку од 125.444 предузетника у 7 земаља Југоисточне Европе: Србија, Босна и Херцеговина, Македонија, Хрватска, Словенија, Румунија и Грчка. Коришћени су подаци ГЕМ-а. За анализу су примењене методе бинарне и ординарне логистичке регресије. Циљ рада је био да се идентификују кључни фактори предузетничке намере ОДЕ и НДЕ. На основу тога предложене су мере креаторима економских политика чија примена може трансформисати НДЕ у ОДЕ и повећати допринос предузетништва економском развоју у земљама ЛИЕ.

IMPORTANCE OF INSTITUTIONAL CAPACITY FOR ATTRACTING FDI IN THE WESTERN BALKAN COUNTRIES

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Abstract

Foreign direct investments are an integral part of open and effective international economic system, and they are the main catalyst for development. However, the benefits of a foreign direct investment are not the same in all local communities, sectors and countries. International investments and national policy are aimed at foreign direct investment and reap benefits of investment development. The challenges are primarily related to the host countries, and the establishment of an efficient and transparent policy to attract investment, and that must be paid to building human and institutional capacity for their implementation. Compared to the existing literature, which focuses mainly on the effects of political risk or corruption on FDI, our contribution is reflected in testing a wider range of institutional variables and their impact on undertaking investment projects by foreign investors. The analysis included 5 countries of the Western Balkans in the period of 22 years starting from 1998 until 2019. In the analysis of empirical data, we used the fixed effect model (FEM) for evaluating FDI. Also, the quality of the research is promoted using balanced panel data.

Key words: FDI, Western Balkan Countries, Institutional Capacity, Corruption, Panel Data

ЗНАЧАЈ ИНСТИТУЦИОНАЛНОГ КАПАЦИТЕТА У ПРИВЛАЧЕЊУ ФДИ У ЗЕМЉЕ ЗАПАДНОГ БАЛКАНА

Апстракт

Стране директне инвестиције су саставни део отвореног и ефективног међународног економског система, и главни су катализатор развоја. Ипак, предности страних директних инвестиција нису једнаке у свим земљама, секторима и локалним заједницама. Националне политике и међународна инвестициона архитектура се баве привлачењем страних директних инвестиција и убирањем плодова од инвестиционог развоја. Изазови се преваходно односе на земље дома-

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ћине, које морају да успоставе транспарентну и ефикасну политику привлачења инвестиција, као и да се посвете изградњи људских и институционалних капацитета за њихово спровођење. У поређењу са постојећом литературом, која се фокусира на углавном на ефекте политичког ризика или корупције на страна улагања, допринос овог рада се огледа у анализи ширег распона институционалних варијабли и њиховог утицаја на предузимање инвестиционих пројеката од стране инвеститора. Анализа обухвата 5 земаља Западног Балкана у периоду од 22 године, почев од 1998. до 2019. За анализу емпиријских података користи се модел са фиксним ефектима (ФЕМ). Такође, квалитет истраживања унапређује се коришћењем панела уједначених података.

Кључне речи: ФДИ, земље Западног Балкана, институционални капацитет, корупција, панел података.

INTRODUCTION

The overall benefits of FDI in the world are documented and well known (Helpman, 1984). Bearing in mind the relevant policies of the host country and the basic level of development, studies clearly show that foreign direct investments trigger the spread of technology, improve the quality of human capital and contribute to the integration of world trade, help to establish a more competitive business environment and enhance firm development (Di Mauro, 2000). All this contributes to the increasing economic growth as a powerful instrument for reduction of poverty in developing countries, particularly the economies of Southeast Europe (Botrić, & Škufljić, 2006). Moreover, in addition to strictly economic benefits, FDI may help improve environmental and social conditions in the host country, for example, the transfer of clean technologies and introducing socially responsible corporate policy.

The most important research is not only focused on the positive effects of foreign direct investment on economic development, but also deals with the potential shortcomings of the host economy, both economic and non-economic. (Grosse, & Trevino, 2005). Although many disadvantages, which are often referred to as cost, reflect the shortcomings of the policies of the host country, the great challenges occur in the event that these shortcomings cannot be easily remedied. Moreover, some governments of host countries see the increased dependence of companies that operate internationally, and therefore the loss of political sovereignty. Some of the benefits expected from investing may be unattainable, for example, if the domestic economy is not able to take advantage of technology or knowledge transfer via foreign direct investment.

The main goal of our empirical research is to test the impact of the variables that most affect the institutional quality of a country, as efficiency of public administration, control of corruption, quality of legal regulation, all with the aim of measuring the attractiveness of FDI. The contribution of this paper is reflected in the fact that it adds several new

directions to the existing research. First, we re-examine the role of institutional capacity in 5 countries of the Western Balkans in the period of 22 years starting from 1998 until 2019. Then, compared to the existing literature, which focuses mainly on the effects of political risk or corruption on FDI, our contribution is reflected in testing a wider range of institutional variables and their impact on undertaking investment projects by foreign investors. In the analysis of the empirical data, we used the fixed effect model (FEM) for evaluating FDI. Also, the quality of the research is promoted using a balanced panel data.

The paper is organized as follows. Section 2 presents institutional aspects of attracting FDI. Section 3 describes the institutional data used in this study. Discussion of results and predicted scenarios are presented in Section 4. The last section presents the concluding remarks.

LITERATURE REVIEW

In addition to the initial macroeconomic stimulus stemming from investment, FDI stimulates growth by increasing overall factor productivity and overall resource efficiency used in the domestic economy. The authors single out three channels by which this is achieved: the connection of foreign direct investment and foreign trade flows, spillovers and other external factors related to the business sector of the host country and the direct impact on the economic structure of the host country (Blonigen, & Bruce 2005). In less developed countries, it seems that foreign direct investments have less impact on growth due to the presence of initial external influence (De Mello Jr, 1999).

A number of significant scientific studies have explored the relationship between FDI and variables that directly or indirectly affect the very nature of FDI. As noted by some authors (Yin-Li et al., 2012), the increased inflow of FDI is influenced by a number of factors including market size (Ramirez, 2006; Quazi, 2007), quality of comprehensive infrastructure (Daude, & Stein, 2007), openness to trade (Martens, 2015; Liargovas, & Skandalis, 2012), and human capital (Glass, & Kamal, 2002; Blomström, & Kokko, 2003; Noorbakhsh, & Paloni, 2001). However, only a few studies have focused on the causal relationship between FDI inflows and institutional quality of their research (Fazio, & Talamo, 2008; Alonso, & Garcimartín, 2013). The used model in this paper describes the dependence of FDI on seven selected regressors presenting indicators which in theory are considered as keys to move FDI. They are the following indicators: export coefficient (GDP_EX), government effectiveness (GEF), political stability (PLST), market size (POP), quality regulations (RQU), the degree of openness of the economy (TOPEN) and corruption control (CC). According to most authors, there are several reasons why the quality of institutional architecture is a prerequisite for the

greater influx of FDI. Namely, the poor institutional environment creates a growth of corrupt practices and thus negatively influences the FDI influx (Wei, 2000). Also, if there is an increased investment risk (country risk, political risk, currency risk, etc.), this will have a negative impact on foreign capital inflows in the form of FDI. Finally, the higher quality of institutions in the country creates a favorable environment, with higher productivity and yields that attract FDI.

INSTITUTIONAL ASPECTS OF ATTRACTING FDI - THEORETICAL AND EMPIRICAL FRAMEWORK

The institutions of the economic system to a great extent define the business environment. FDI are particularly sensitive to the impulses coming from the Government. Higher or lower efficiency of economic entities depends on many of determinants. This paper examines some of the parameters of attracting FDI in the Western Balkans.

The used model in this paper describes the dependence of FDI from seven selected regressors presenting indicators which, in theory, are considered as keys to move FDI. They are the following indicators: export coefficient (GDP_EX), government effectiveness (GEF), political stability (PLST), market size (POP), quality regulations (RQU), the degree of openness of the economy (TOPEN) and corruption control (CC).

Tintin (2013), in his study, analyzes the determinants of FDI in the six countries of Central and Eastern Europe, with the inclusion of institutional variables and traditional factors in the period 1996-2009. The main approach in the study was the panel for estimating at least squares with fixed effects. Results show an economically significant and positive role of the GDP amount, trade liberalization, government instability and the inflow of FDI. The index of economic freedom, index of the state sensitivity, index of political rights and civil liberties index have a different, but significant effect on the inflow of FDI in the observed group of countries, from different countries of investors.

Export and outward FDI can be substitute or complementary, according to the development stages of outward FDI. Thus, Liua et al. (2016) find “that in a given economic environment, companies optimize a production function that includes three export activities, foreign direct investment, and domestic production and sales. Optimization of production functions and achievement of company' s goals require companies to complement exports with foreign direct investment, export or substitute with outward FDI, in accordance with the development phase of outward FDI.” Bahadur, & Tandon (2015) argue that FDI is one of the crucial macroeconomic variables affecting the Indian economy. The growth and development can be affected by increasing the level of exports and inviting more foreign currency inflow into the country. They conclude that

there is no long-term association between the FDI and export through Granger causality approach. The findings also show that there is no causality between the variables.

Government effectiveness (GE) is a variable that measures efficiency of public administration and the quality of public services provided. Statistically, this parameter indicates a very strong positive correlation. Consequently, it can be concluded that efficient public administration is an extremely important factor in attracting FDI in the Western Balkans. A study performed by Benassy-Quéré et al. (2005) referred to the role of the institutional environment in attracting FDI. Using various econometric techniques, the authors with enough arguments confirm the theoretical view on the role of institutions, regardless of the estimated GDP per capita. The study confirmed that the efficiency of the public sector as a whole is an important determinant of FDI, including the tax system, security of property rights, the speed of starting a business, transparency, lack of corruption, judicial efficiency and prudential standards. Results of research conducted by Busse, & Carsten (2007), using two different econometric models (Arellano-Bond generalized method of moments and fixed effects model for ground estimator - GMM) show that the following determinants of foreign investments are of great importance: government stability, corruption and ethnic tensions, external and internal conflict, democratic accountability, law and order and quality of government bureaucracy. The analysis covers 83 developing countries in the period 1984-2003. The authors conclude that the institutional indicators and political risk are important when multinational corporations are faced with decisions about where to invest in developing countries.

When it comes to Political stability (PLST), Brada et al. (2006) observed a fundamentally different nature of the political instability of some economies in transition in comparison to other countries. In these countries, there is, to a significant extent, uncertainty about the evolution of democracy, stability and government efficiency, as well as the risk of social unrest. Also, some countries in transition, especially those in the Balkans, were exposed to another type of political risk, caused by the war unrest, inter-state, inter-ethnic or internal, as well as foreign economic and military interventions. When Desbordes, & Vicard (2009) examine how bilateral investment treaties affect FDI, they concluded that FDI-based profits depend significantly on the quality of political relations between the FDI's country of origin and the host country. Effects of bilateral investment treaties depend on the quality of political relations between the Parties. The authors also conclude that there must be complementarity between bilateral investment treaties and quality local institutions. The research is based on the evaluation of influence of the interstate political interactions on bilateral FDI stocks between 30 OECD, 62 OECD and non-OECD countries over the 1991-2000 period. Of particular importance is

the authors' conclusion that the positive effect of bilateral investment treaties on FDI depends decisively on the quality of bilateral relations, and the increase of foreign direct investment among countries with political tensions.

The study of Wisniewski, & Pathan (2014) investigated the role of political factors in making decisions about the location of investments of multinational companies. The authors place the central focus on the analysis of inter FDI in OECD countries, the influence of their political institutions and processes on their inflow. Researching differences in policy environment and their role in the decision-making of international investors has documented that these variations lead to significant differences in the geographical distribution of FDI.

Martinez-San Roman et al. (2016) analyzed the quality of FDI flows between EU countries, as well as the importance of economic integration on FDI inflows in the period 1995-2009. Their results indicate a strong link and a positive correlation between the degree of economic connectivity and FDI inflows. In this regard, the variables related to the size (structure) of the market appear to be relevant for explaining intra-European FDI flows.

Regulation Quality (RQU) measures institutional obstacles to the functioning of the market. The research results are different. Better institutions as a whole have an economically significant and positive FDI, with some institutional aspects being more important than others. Some of them point to the negative sign on the variables with statistically significant value. From the empirical point of view, the impact of government regulations on the quality of FDI has been discussed by Brusse, & Groizard (2008). Using a large number of government regulations and a comprehensive World Bank database, they tested the hypothesis that countries with restrictive regulations could not effectively use FDI inflows. They investigated the effects of starting and closing companies, labor market regulation, contract execution, creditors' rights and loan approval. The results of this study have important political implications in the sense that the government must first improve the quality of regulation in their countries, before they could take advantage of openness to foreign capital in the form of FDI, i.e. in order to maximize the possibility of the inflow of FDI contributing to higher rates of growth.

On the other hand, Adams, & Opoku (2015) investigated the impact of FDI on economic growth and the impact of the countries' regulatory regime to increase FDI in the 22 African countries for the period 1980-2011. They implemented General Methods of Moments (GMM) and found that there is mutual interdependence and influence, and their interaction has a significant positive effect on the economic growth between FDI and regulations (business regulations, total regulations, market regulations and labor market regulations). Obviously, higher FDI growth

has been driven by better and more efficient regulations. Efficient business regulation, regulation of the market and employment market regulations are crucial in maximizing profit from FDI.

Control of Corruption (CC) is the next and very specific and important parameter. Corruption can be defined in different ways, with regard to its various forms, such as bribery, extortion, influence, fraud and embezzlement. From our perspective, which tracks the impact of corruption on the cost of investment operations, the most appropriate definition of corruption is as a “package” that includes “personal exchange between the two sides, and where in (1) affects the allocation of resources, whether in the current period, and (2) means the abuse of public office in achieving personal benefits. The two sides can be, for example, public officials (the “demander”) and foreign investors (the “supplier”) (Macrae, 1982, p. 22). Habib, & Zurawicki (2002) analyzed the effects of corruption on bilateral FDI flows in a sample of 89 countries, managed to establish fortifications that foreign companies tend to avoid situations where there is visible presence of corruption, because corruption could be an important cause of inefficiency. Qian, & Sandoval-Hernandez (2016) examined the effects of distance from corruption, which they defined as the difference in the level of corruption between pairs of countries on bilateral foreign direct investment. Thus, they discovered that the distance from corruption negatively affects both the probability of FDI and the volume of FDI.

According to studies, corruption has negative effects on economic performance. Foreign investors are most interested in the transparency and impartiality of institutions that guarantee the usual and “normal” running of their business. By conducting research, it must be borne in mind that corruption is a complex phenomenon, accompanied by many other characteristics of the host country, such as the cultural values, lack of competition, quality of institutions. Abed and Davoodi (2000) view corruption as a systemic weakness, i.e. that it occurs in those economies that have weak institutions. Strengthening institutional capacity also strengthens economic policy measures that reduce the corruption of participants. However, due to the impossibility that these factors are held at a constant level, the estimated effects might be biased in any direction.

Al-Sadig (2009), in the period of 1984-2004, presented data for 117 countries. He used two different econometric methods, a much wider set of control variables, as well as different data sets in the analyzed panel. Later, he discarded the high-income OECD countries from the sample. Empirical evidence suggests that the cross-sectional regressions confirm the argument that corruption significantly deters foreign investors.

DATA AND ECONOMETRIC MODELS

Analysis included five Western Balkan countries¹ for the period of 22 years, starting from 1998 until 2019. The data used in the creation of econometric models for the observed period were collected from World Development Indicators Database from WB, IMF and supplemented by data from the UNCTAD and official national sources. The limiting factor in the analysis is the lack of data for a longer period for the observed countries, as well as the small number of countries that make up the target group. The model describes FDI dependence from seven selected regressors by which indicators were presented and in theory considered as a key to move FDI. These are the following parameters: GDP_EX, GEF, PLST, POP, RQU, TOPEN and CC (Table 1).

Table 1. Indicator used in the study

Indicator	
FDI	Foreign Direct Investment
GDP_EX	Export Ratio
GEF	Government Effectiveness
PLST	Political Stability
POP	Population
RQU	Regulation Quality
TOPEN	Trade Openness
CC	Control of Corruption

Source: Systematization of authors

For the analysis of the collected data panel data model was used. Econometrically, the panel data model comprising both time series and cross-sectional elements, which means that each panel observation has a spatial and temporal dimension. Information panels can be picturesquely described as data related to observation units in different time periods. Observed Western Balkan countries are a heterogeneous group in terms of population size, where Serbia has the largest population with almost 7 million people, and Montenegro the least, something more than 600,000. The average share of exports in GDP in the observed group of countries in 2019 was 45.9%, where Macedonia leads with over 60%, while in Albania is the lowest percentage, at around 31.2%. The share of FDI in GDP is significantly different between the observed groups of countries. The largest share in 2019 was recorded in Serbia and Montenegro with approximately 8.3%, while the lowest value of this indicator was in Bosnia and Herzegovina, less than 3%. It is interesting that Macedonia leads for the TOPEN coefficient, while Bosnia and Herzegovina is at the back. Because of the limitations related to the regression coefficients in panel, surveys commonly use following regression models:

¹Albania, Bosnia and Hercegovina, Montenegro, North Macedonia and Serbia.

- *Pooled OLS model,*
- *Fixed-effects model,*
- *Random-effects model.*

Each of three models gives different results in terms of regression coefficients value and statistical significance of results. In order to establish which model best describes the reaction of dependent variables on independent variables variation, it is necessary to carry out appropriate tests. The specification of these tests is given below:

- *Pooled vs. Fixed-effects model - F-test*
- *Pooled vs. Random-effects model -Breusch–Pagan test*
- *Fixed-effects vs. Random-effects model - Hausman test*

Because the number of countries in the analysis is less than the number of variables, in the analysis of empirical data we used the fixed effect model (FEM) for evaluating FDI. Also, we used a balanced panel data which implies an equal number of observations for each unit of observation (cross-section) over time. The considered model can be represented as follows:

Fixed effect model

$$FDI_{it} = \beta_0i + \beta_1GDP_EX_{it} + \beta_2GEF_{it} + \beta_3PLST_{it} + \beta_4POP_{it} + \beta_5RQU_{it} + \beta_6TOPEN_{it} + \beta_1CC_{it} + u_{it}$$

where is: β_0i - the unknown intercept for each entity, u_{it} - the error term.

The results of the estimation given by the software *EViews 10*.

DISCUSSION OF RESULTS AND PREDICTED SCENARIOS

Using the appropriate model and software, the following results were obtained in the tables below:

Table 2. Fixed effect model

Variable	<i>Fixed effect model</i>		
	Coefficient	t-Statistic	Prob.
C	5.19E+09	1.819836	0.0718
GDP_EX	1.14E+09	2.361733	0.0364
GEF	3236763.	0.313015	0.7549
PLST	11296907	1.713500	0.0898
POP	2076.208	3.178095	0.0020
RQU	4671569.	2.390777	0.0217
TOPEN	8207944.	2.216453	0.0492
CC	21212757	2.183305	0.0401
R-squared	0.635164		

Source: Authors' calculation

$$FDI = 5193325509.36 + 1143213929.45 * GDP_EX + 3236762.71429 * GEF + 11296906.8088 * PLST + 2076.2079037 * POP + 4671568.55655 * RQU + 8207944.30501 * TOPEN + 21212757.4805 * CC + [CX=F]$$

Based on the data obtained in the model, certain conclusions can be drawn (*Table 2*). All the parameters used show the expected positive direction of change. The total population (POP) in this model represents the size of the market. The analysis showed a very strong positive correlation between population and FDI inflows into the Western Balkan countries. This is an expected trend given that many studies have proven that larger markets seem more attractive for higher FDI inflows (Aziz, & Makkawi, 2012; Bellak et al., 2008).

On the other hand, there is an unambiguous and clearly verified positive relationship between the FDI level and the degree of openness (integration) of the Western Balkan countries to international foreign trade as measured by the share of imports and exports in GDP (TOPEN parameter). Such a connection can easily be seen by observing the longtime series data on the movement of international trade and the amount of FDI by region. The results unequivocally indicate that the level of FDI increases as does the level of foreign trade liberalization, suggesting that, on average, a country with a more open economy has a higher level of FDI inflow. Stronger integration in the international division of labor in the Western Balkans, it seems, goes hand in hand with higher inflow of FDI.

It can be observed that economic science today is dominated by the view that the main reason for economic growth lies not in the accumulation of capital, nor in the productivity of production factors, but in an institutional framework that enables the benefits of accumulation and productivity. An essential part of this framework is the regulation quality of state institutions (RQU). According to this view, appropriate institutions and regulations encouraging innovation and technological progress, lead to the accumulation of capital and inflow of FDI, increasing employment, productivity and growth. On the contrary, weak institutional arrangements and over- or under-regulation adversely affect innovation, employment and capital accumulation, leading to a slowdown in economic growth and FDI inflows. In our case, a high correlation between RQU and the inflow of FDI was found, which only shows the important role of RQU on FDI inflow.

The instrumental value of Government effectiveness (GEF) is particularly important for those societies where the public sector is large and where public spending cannot be successfully brought under control potentially causing a public debt crisis, as was the case in Greece. If public sector efficiency is increased, high budget deficits can be reduced or eliminated without reducing or even increasing the quality of services provided to citizens through public services. Increasing the quality of public sector services is particularly important for countries that have overall very poor public service performance (Afonso et al., 2006).

Corruption is a global phenomenon that causes poverty, hampers development and reduces the inflow of FDI. Empirical research shows that corruption increases poverty in the country and deepens social differences in

society by slowing economic growth. The policy of public investment adjusts the interests of a small layer of rich and powerful and narrows the circle of beneficiaries of public services such as education, health care, security, legal certainty (Kaufmann et al., 1999). The parameter of corruption control (CC) measures the impact of the institutions of the system on the possibility of reduction or its complete elimination. Our analysis showed a positive link between the control of corrupt practices and the inflow of FDI, which is in line with the conclusions of leading papers in this area.

Between FDI and other indicators (PLST and GDP_EX) a direct dependence is established. The value of the coefficient of determination R^2 was 0.635 and we can consider that the resulting model largely explained changes in FDI changes in the factors, considered in analysis as independent variables.

CONCLUSIONS

The models used in our paper for the period between 1998 and 2019 showed a high cause-and-effect relationship of the parameters GDP_EX, GEF, PLST, POP, RQU, TOPEN, CC and FDI inflows. For the WB countries, the positive correlation expressed practically means a signpost to a higher inflow of foreign capital.

The main conclusion that can be drawn is that for the observed Western Balkan countries, the economic benefits of foreign direct investment are real, but will not be achieved automatically. In order to achieve maximum benefits from foreign corporate presence, it is of the utmost importance to ensure a healthy business environment (such as adequate control of corruption or minimize political risks, presented in our model as CC and PLST variables). The net benefit from FDI is not achieved automatically, and their size varies from country to country. Factors that limit the full benefits of foreign investment in some Western Balkan countries may be the general level of education, level of technique and technology on the development of the country, weak competition, lack of openness to trade, and poor regulation. In contrast, increasing the level of technological advances, education and infrastructure will enable developing countries to make better use of foreign presence in their market.

In economies where a healthy business environment is created by efficient economic and legal institutions, the entry of strong foreign corporation encourages the business sector of the host country, either through competition, vertical alliances or demonstration effects. Foreign direct investment shows extreme sensitivity to all the strengths and weaknesses of the corporate environment.

Viewed in a broader context, the model results indicate a very important fact: foreign direct investment, as a form of development aid cannot be the main and only source for solving all the problems of poor countries,

such as those in the Western Balkans. Countries that are unable to raise funds for local investment cannot count on the benefits of foreign direct investment. It is the task of the government host countries to raise the level of education, invest in infrastructure and support the development of a healthy domestic business sector. Local subsidiaries of multinational corporations have the potential to support these efforts, but authorities and international agencies can help by various measures to build these capacities. However, in the end, the effects of FDI still remain dependent on government policy.

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ЗНАЧАЈ ИНСТИТУЦИОНАЛНОГ КАПАЦИТЕТА У ПРИВЛАЧЕЊУ ФДИ У ЗЕМЉЕ ЗАПАДНОГ БАЛКАНА

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Резиме

Укупне користи од страних директних инвестиција су у свету документоване и добро познате. Имајући у виду одговарајуће политике земље домаћина и основни ниво развоја, студије недвосмислено показују да стране директне инвестиције активирају ширење технологије, подижу квалитет људског капитала, доприносе интеграцији светске трговине, помажу стварању конкурентнијег пословног окружења и побољшавају развој предузећа. Све ово доприноси већем економском расту који је најмоћније средство за смањење сиромаштва у земљама у развоју, посебно економијама Југоисточне Европе. Осим тога, поред строго економских користи, стране директне инвестиције могу помоћи у побољшању услова животне средине и социјалних услова у земљи домаћина, на пример, преносом чистијих технологија и довођењем до социјално одговорније корпоративне политике.

Најзначајнија светска истраживања се не фокусирају само на позитивне ефекте страних директних инвестиција на развој, већ се баве и потенцијалним недостацима привреде домаћина, како економским, тако и неекономским. Иако се многи недостаци, који се често називају трошковима, одражавају на недостатке политике земље домаћина, велики изазови се јављају када се ови недостаци не могу лако решити. Потенцијални недостаци укључују погоршање платног биланса када се профит пресели у другу земљу, недостатак позитивне повезаности са локалним заједницама, потенцијално штетан утицај страних директних инвестиција, посебно на екстрактивну и тешку индустрију, социјални поремећај убрзане комерцијализације у земљама у развоју, и ефекти конкуренције на националним тржиштима. Неке власти земаља домаћина чак доживљавају повећану зависност од предузећа која послују на међународном плану, губећи на тај начин свој политички суверенитет. Неке очекиване користи од инвестиција могу се чак показати као недостижне, на пример, ако домаћа економија није у стању да искористи технологије или трансфер знања путем страних директних инвестиција.

Главни циљ нашег емпиријског модела је тестирање утицаја варијабли које најбоље граде институционални квалитет (преко ефикасности јавне управе, контроле корупције, квалитета правне регулативе), а све у циљу мерења атрактивности СДИ у земље Западног Балкана.

CULTURE, POWER AND STRUCTURE OF ORGANIZATION: AN INTEGRATIVE RESEARCH FRAMEWORK

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Abstract

The aim of the paper is to develop an integrative research framework for analyzing the relationships between organizational culture, power, and structure. Organization is observed as a configuration of mutually consistent components, so the main research question emerges: How organizational components impact each other? In this paper, the answer to this question is given through the analysis of the interrelationships between organizational culture, power and structure by applying the metaphor of the hologram. We started from the position that an organization must be understood as a state arising from the processes at both individual and organizational levels. The organization members' needs for affiliation, power and achievement generate psychosocial, political and functional actions at the individual level, as well as the same processes at the organizational level. These processes generate organizational culture, power and structure as elements of the organization. However, the key idea is that culture, power and structure are derived from the wholeness of organizational processes and therefore contain each other as a kind of hologram. As a result, culture legitimizes power and structure, power instrumentalizes culture and structure, while structure institutionalizes culture and power. The paper shows practical implications of an integrative research framework both through defining further directions for research into relationships between culture, power and structure, as well as through showing to the management of organizations why it is necessary to understand and take into account the mutual consistency between culture, power, and structure.

Key words: organization, organization theory, organizational culture, power, organizational structure

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КУЛТУРА, МОЋ И СТРУКТУРА ОРГАНИЗАЦИЈЕ: ИНТЕГРАТИВНИ ИСТРАЖИВАЧКИ ОКВИР

Апстракт

Рад има за циљ да развије интегративни истраживачки оквир за анализу међусобних релација организационе културе, моћи и структуре. Организација се посматра као конфигурација међусобно конзистентних компоненти те се поставља основно истраживачко питање: како организационе компоненте условљавају и утичу једна на другу. У овом раду се одговор на ово питање даје кроз анализу међусобних односа организационе културе, моћи и структуре применом метафоре холограма. Пошли смо од става да се организација мора схватити као стање које произлази из процеса и на индивидуалном и на организационом нивоу. Потребе чланова организације за припадношћу, моћи и постигнућима генеришу психосоцијалне, политичке и функционалне акције на индивидуалном, као и исте те процесе на организационом нивоу. Ти процеси генеришу организациону културу, моћ и структуру као елементе организације. Међутим, кључна идеја је да култура, моћ и структура произлазе из целокупних организационих процеса и стога садрже једни друге као нека врсту холограма. Као резултат, култура легитимише моћ и структуру, моћ инструментализује културу и структуру, док структура институционализује културу и моћ. У раду је указано на практичне импликације интегративног истраживачког оквира како кроз дефинисање даљих праваца истраживања односа између културе, моћи и структуре тако и кроз указивање менаџменту зашто је неопходно да разуме и узме у обзир међусобну конзистентност организационе културе, моћи и структуре.

Кључне речи: организација, организациона теорија, организациона култура, моћ, организациона структура.

INTRODUCTION

Configuration perspective has been present for a while now in the research of organization and management (Miler, 1990, Dow, 1988, Mintzberg, 1979, Ranson, Higgins, Greenwood, 1980). It is founded on the assumption that internal harmony, consistency and balance between the elements of organization and management are the source of competitive advantage and superior performance of organizations. For this reason, the organizational components, such as strategy, structure, systems and processes, must be mutually consistent and harmonized. They also must be harmonized with the external contingencies. The consequence of internal and external consistency and organizational elements' harmony is the creation of their typical configurations (Janićjević, 2017). The research into typical configurations mostly aims to show the management how to harmonize different types of individual organizational components; for example, what type of structure is consistent with a particular culture (Janićjević, 2013), which leadership style is in harmony with a particular type of organizational structure (Eva, et al., 2018), what types of structure and culture are compatible with knowledge management (Stojanović-Aleksić, et al., 2019), what cultural values incite organizational learning and facilitate knowledge

management (Zheng, Yang, McLean, 2010), what change management strategy is compatible with a particular type of culture (Janićijević, 2012), etc. A relatively small amount of research is focused on finding the answer to a much deeper question: How do organizational components define each other, that is, what is the mechanism of mutual impact of organizational components? How does, for example, an organizational culture condition a certain leadership style, or vice versa? This paper aims to investigate precisely the mechanism of mutual impact of three organizational components: culture, power and structure.

The aim of this paper is to, theoretically, research into the causes of mutual harmonizing of culture, power and structure within an organization and to, thus, set an integrative framework for their investigation. We will first set up a theoretical organizational model with culture, power and structure as three constitutive components, in order to set hypotheses on their mutual relationships by using the metaphor of the hologram. In the second part of the text, organizational culture, power and structure, as well as their mutual conditioning mechanisms and their interrelationships will be individually explained in detail. Thereby, we will show that it is impossible to understand either one of the three stated organizational components without understanding the other two.

DIFFERENTIATION OF CULTURE, POWER, AND STRUCTURE AS ORGANIZATIONAL COMPONENTS AND THE DETERMINATION OF THE NATURE OF THEIR RELATIONSHIPS

Identifying culture, power and structure as the constitutive elements of organization emerges from the idea that organization develops as the consequence of the striving of its members to satisfy their needs. Based on three basic groups of needs that the organization members satisfy, the three basic types of individual actions have been identified that translate into three types of organizational processes that generate three basic organizational components.

Organizational reality may be observed at two levels, individual and organizational, as well as through state and process. The state at the individual level includes motivational factors of individual behavior relevant to the organization. Motivational factors include the needs and motives which drive individual action at the basic level. The main theories of the motivation content allow us to conclude that we can distinguish three main groups of the organizational members' needs according to the nature of the action that meet them: the social need or the need for belonging, the need for power, and basic physiological and safety needs along with the need for achievement (Maslow, 1943; McClelland, 1961, Alderfer, 1972).

Processes at the individual level consist of individual actions aimed at satisfying three kinds of individual needs. There are three types of individual

actions: psychosocial, political and functional. Psychosocial actions stem from the need for belonging and are aimed at creating a collective identity of some sort to satisfy the need for affiliation. Political actions stem from the need for power and influence and are directed toward exercising influence over other organizational members. Functional actions stem from the physiological and safety needs, as well as from the need for achievement. Functional actions are aimed at performing the economic mission of the organization since such performance is the only way to satisfy these physiological and safety needs and the need for achievement.

Given the social character of organizations, individual needs may be satisfied only through interaction with other people. This interaction provides the content of organizational processes. Social interactions in organizations also have a systemic character: they are always something more than the sum of individual actions. These interactions, then, do not express the intentions of any individual actor in the organization. The existence of three types of individual actions also leads to a conclusion about the existence of three types of organizational processes. Because of the nature of individual psychosocial actions, interactions at the group and organizational levels are actually processes of the social construction of reality. Political actions cause the differentiation of power among organizational members. Functional processes may be seen as performing individual and group tasks to achieve an overall organizational mission. It should be emphasized that, given the systematic character of organizational processes, the social construction of reality, differentiation of power and the functioning of the organization are more than the sum of individual psychosocial, political and functional actions.

What we usually mean by the term “organization” is a state at the organizational level. So, the organization is to be seen as a pattern of organizational processes, which is interpreted by the organizational participants and, consequently, represents the symbolic context for their further actions. We may now hypothesize that culture, power and structure of the organization result from the explication of organizational reality at both levels and in both states. So, the organization, consisting of culture, power and structure, may be seen as a stable pattern of the psychosocial, political and functional processes within the organization. Social construction of reality generates culture as a set of shared meanings; differentiation of power generates power as an ability of some organizational participants to change the behavior of others; performing the organizational economic goals generates structure as a pattern of differentiation and integration of individual and group tasks in this process.

The following figure shows the described organizational model:

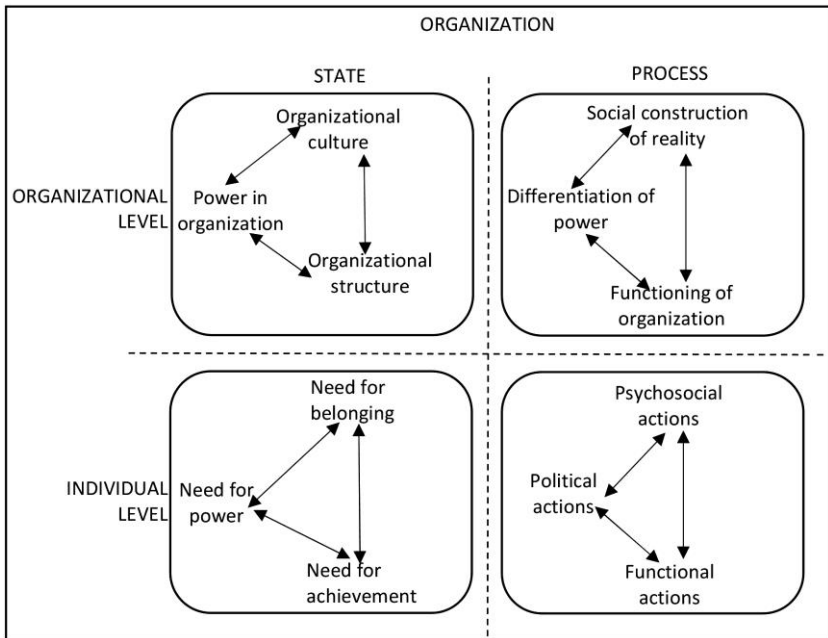


Figure 1. Integrative framework for organizational analysis

In order to fully understand the relationships between organizational culture, structure and power, we will use the metaphor of the hologram. Metaphors have lately been often used as a useful tool for understanding organizations, their nature and the nature of relationships within them (Tohidian, Rahimian, 2019). Garrett Morgan started this trend in his book *Images of Organization* (1986), and he also largely influenced the understanding of the nature of organizations. Among organization metaphors, the metaphor of the hologram is a particularly useful tool for the multidimensional understanding of the phenomenon of organization (Morgan, 2006). The hologram is the laser technology which produces three dimensional images of objects. The fundamental feature of holograms is the absence of the “one-to-one” correspondence characteristic of photography, between elements of the real object and elements of the resulting image. Instead, a hologram consists of an all-to-one correspondence between the real object and image created. All-to-one correspondence means that every part of the hologram expresses the full image of the subject, reflecting the entire object from a unique, particular perspective. Just like in nature, where “the DNA of the whole is built into each cell” (Itkin, Nagy, 2014: 44), in organizations as holograms, the whole of the organization is built into each of its parts. The metaphor of the hologram has often been used to describe any phenomenon whose parts consist of each other. For example, it is hypothesized that the human brain has a holographic feature, as each part of

it is more or less able to perform all functions of the brain as a whole. Applied to the world of organizations, the metaphor of the hologram shows that every component of organization involves the wholeness of organization in itself. In other words, every organizational variable includes and expresses all other variables in itself.

The metaphor of the hologram may be the conceptual basis appropriate for building an integrative framework of organizational culture, structure and power. Building on that metaphor, it is possible to construct the framework for an organizational analysis which would be able to show how organizational components included in it are differentiated from the organization as a whole, as well as how each variable includes all other variables in itself, and how each variable resembles the wholeness of organization. According to our framework built on the hologram metaphor, organizational culture, power and structure should be viewed as different conceptualizations of the same organizational reality which comprise each other. Mutual determining of the organizational culture, structure and power emerges precisely from the fact that each of these three organizational components emerges from and maintains the wholeness of organization. Relations among them are as follows:

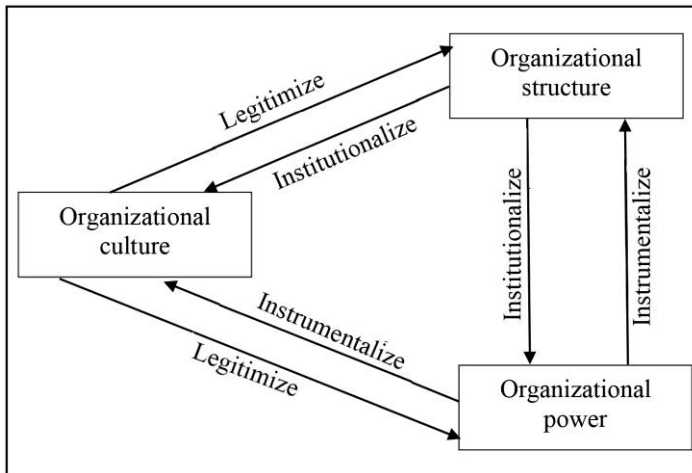


Figure 2. Relations among organizational culture, structure, and power

It is now possible, building on the described framework, to develop the concepts of organizational culture, structure and power which would provide an integrative framework for their analysis.

ORGANIZATIONAL CULTURE

Organizational culture is understood as a system of assumptions, values, norms and attitudes (Schein, 2004), manifested through symbols (Rafaeli, & Worline, 2000; Alvesson, & Borg, 1992) that members of an organization have developed and adopted through mutual experience (Schein, 2004), and which help them determine the meaning of the world around them and how to behave in it (Smircich, 1983). Organizational culture emerges in the process of social construction of reality within organizations (Geertz, 1973). All organizations face the same problems, specifically, external adaptation and internal integration (Schein, 2004). Solutions to these problems are found through the process of social interaction between the organizations' members, in which members construct the reality inside and outside the organization by assigning specific meanings to things, occurrences and events, as described by Berger and Luckmann (1966). Organizational culture emerges when specific meanings shared by the majority of an organization's members are created and established, and then used to reach a consensus on how to resolve the problems of external adaptation and internal integration.

As the above definition implies, organizational culture has a cognitive and a symbolic component in its content. The cognitive component consists of mutual assumptions, beliefs, norms and attitudes that the organization's members share, which also shape their mental (interpretative) schemes (Alvesson, 2002; Martin, 2002; Smircich, 1983). Organizational culture, therefore, determines the way the organization members perceive and interpret the surrounding world, as well as the way they behave in it. Symbolic components represent the visible part of organizational culture that can be heard, seen or felt, and that manifests, represents and communicates the meanings produced by the cognitive components (Dandridge, Mitroff, & Joyce, 1980). Semantic, behavioural and material symbols strengthen, transmit and also modify the organizational culture (Alvesson, & Borg, 1992).

Since culture stems from the wholeness of organizational processes, it emerges not only from psychosocial, but also from political processes. Political processes comprise dependency relations among organizational members. The result of creating the culture through the political process is the forming of an interpretive form of power. Interpretative power, explained in the next section, is created when superior individuals, usually leaders, impose certain assumptions, beliefs and values to the inferior individuals and groups, thus determining the meaning of reality for them and also determining their opinions and behaviors in that reality. Therefore, in the process of gaining interpretative power, organizational culture is the instrument of power. It is created and used by the superior actor or leader in order to gain power. In this way, culture is instrumentalized: it is an instrument in the hands of some organizational

members for acquiring or perpetuating power. This is why we say that power instrumentalizes the organizational culture. In order to use practical implications that emerge from this conclusion, it is necessary to further investigate how carriers of power in an organization use the power to change organizational culture, and also whether there is a disagreement between certain power structure forms and particular organizational culture types. For example, answers are required to the questions of which values emerge in organizations with an authoritarian power structure, and which ones emerge in organizations with an egalitarian power structure. Or, what kind of power structure develops in each of the organizational culture types: power culture, role culture, task culture and people culture (Handy, 1979).

Beside the political, the functional dimension of organizational processes also takes part in the creation of organizational culture. The functional dimension of organizational processes contains ways of differentiation and integration of individual or group activities in the functioning of organization. The way the organization is structured, however, implies certain meanings. Every organizational structure induces specific behavior of the members regarding the tasks they conduct daily and the manner in which they perform them. On the other hand, such behavior of the organization members has certain symbolic and cognitive implications. The organization members inevitably accept the assumptions, values and norms that justify their behavior and incorporate them in their interpretative schemes. At the same time, they create symbols of these values in order to publicly manifest this acceptance. Thus, when the new organizational structure implies a certain behavior, then the cultural assumptions, values and norms implied by this behavior will be implanted and/or strengthened. With this process, the culture becomes institutionalized through organizational structure. Institutionalization of culture represents a process through which the cultural assumptions, values and norms in an organization are built in its structure. Institutionalization of culture is the consequence of its creation from the functional dimension of organizational processes. The practical implications of this conclusion imply answering the following question: What cultural values and what culture types emerge in particular models of organizational structure? For example, what is a typical culture in a bureaucratic, and what is a typical culture in an adhocratic organizational model? One of the possible answers to this question already exists in the literature (Janićijević, 2013).

POWER IN ORGANIZATION

Power is usually defined as an individual's or a group's ability to impose their will on others, regardless of resistance. Salancik and Pfeffer

(Salancik, Pfeffer, 1977: 3) define power as “the ability of those who possess power to bring about the outcomes they desire.” Other definitions also emphasize the change in behavior of an inferior participant in the relationship (Robins, & Judge 2016: 134). In defining power and identifying its sources, two approaches have emerged thus far: resource and interpretative. Each of these approaches is directed towards different form, or type, of power in organization.

The major source of the resource form of power is resource dependency. According to the resource dependency model (Pfeffer, 1981; Salancik, & Pfeffer, 1977), power stems from the ability of one to control the resources which are important for others. The power of an individual in an organization or an organizational unit emerges from their ability to control the resources that are critical for the given organization. Resources may be understood relatively widely, so they do not only include material and financial resources, but also knowledge and information, which have in the past decades become increasingly important for company’s operations. The crucial nature of the resources stems from their three main dimensions: 1. importance for organization’s functioning; 2. scarcity; 3. low possibility of substitution.

The second form of power is interpretative power. Interpretative power is, in effect, the influence which one social actor imposes on the interpretative schema of another actor. In most social groups, there are prominent individuals who have the ability to structure the ways in which those around them think (Smircich, 1983). They give meaning and explanations to the things and occurrences they are surrounded with, which the others accept. In every social group, there are individuals who are ready to let others interpret reality. The superior members of the group then assume control over the process of interpretation of reality and shape the consciousness, the way of thinking, and even the way in which the inferior members behave (Smircich, & Morgan 1982; Lukes, 1974). The source of interpretative power is obviously the ability of the independent actor to control meanings and to shape the cognitive schema of the dependent actor.

Like culture, power is also created from the wholeness of organizational processes. It means that the generation of dependency among organizational members depends not only on political processes, but also on cultural and functional processes. The role of psychosocial processes in shaping the structure of power in the organization is operationalized through the influence of culture on the generation of resource power. Namely, the resource dependence model starts with the assumption that the source of power lies in the control over critical resources. But, which resources will be labeled as critical to the organization, depends on the image of the organization and its environment created by the collective assumptions and values. By its influence on the identification of the critical resources

the controlling of which proves power, the culture indeed legitimizes the structure, sources and also owners of the power within the organization. In order for some source of power, and thereby also the carrier of power, to become legitimate, it must be justified from the perspective of the organization and its members. In other words, in order for a source of power to be acceptable for the organization members, they must believe that it is useful for achieving of the organizational, but also their own personal goals. When people designate some resource as critical and important, they thereby legitimize the power emerging from the control over that resource. This is why we say that organizational culture, by influencing the choice of critical resources in organization, also influences the sources and the structure of power and thereby legitimizes the power and its owners. The practical conclusion of this analysis would be complete if the impact of specific cultural values or organizational culture types on the models of power structure in an organization would be researched. For example, what power structure is implied by each type of organizational culture such as: power culture, role culture, task culture and people culture (Handy, 1979)?

Functional processes imply a certain way of structuring activities (differentiation and integration) in organizations. Organizational structure creates positions within the organization enabling those participants who occupy such positions to control critical resources and gain power regardless of their abilities. Some positions in the organization allow, by themselves, control over money, relations, information or some other resources and thus guarantee power to those who occupy them. In addition, the central position of some individuals and groups in the structure can give them the characteristics of a “hub” of information and contacts and thus power (Pfeffer, 1981). Finally, the structure gives certain positions in it a certain amount of formal authority or legitimate power that is manifested in the right given to those who are in that position to issue orders to others (French, Raven, 1959). Although formal authority may be significantly less than real power, it almost always exists. Therefore, power also stems from the structural position in organizational functioning. This argument has been extensively used in resource dependency view of power (Pfeffer, 1982; Salancik, & Pfeffer, 1977). Power is institutionalized as described above: dependency among organizational members is created out of organizational functioning. Institutionalization of power implies that power structure in an organization consists of and expresses structural relations. For the understanding of practical implications of this conclusion, it is necessary to further investigate how particular models of organizational structure determine particular forms of power structure in an organization. For example, what is a typical power structure in a mechanical, and what is a typical power structure in an organic model of organizational design?

ORGANIZATIONAL STRUCTURE

Organizational structure is defined as a relatively stable, either planned or spontaneous, pattern of actions and interactions that organization members undertake for the purpose of achieving the organization's goals (Mintzberg, 1979). This understanding of organizational structure is based on the fundamental assumption of it being purposeful, i.e. on the idea that organizational structure has its purpose (Dow, 1988). Purposefulness of structure implies that it is a rational instrument in the hands of those governing the organization, used for directing the course of activities in the organization towards realizing its objectives. Rationality of the organizational structure is ensured by its differentiation and integration of the organization members' individual and collective activities (Mintzberg, 1979). The differentiation process involves the differentiation of operational and managerial activities, i.e. division of labor (job design) and delegation of authority. Integration is realized in unit grouping or departmentalization and coordination. Differentiation and integration in organizational structuring therefore imply four essential dimensions of organizational structure: job design, delegation of authority, unit grouping and coordination. These dimensions of organizational structure are congruent, which means that there is harmony or concordance between them. Presumption of congruency is fundamental for the concept of organizational structuring (Mintzberg, & Miller, 1984). It assumes that congruency or harmony as dimensions of the organizational structure leads to better performance of the organization. In order for an organization to be successful it has to provide mutual congruency of the dimensions of its own organizational structures. This, then, leads to the formation of configurations of congruent structural dimensions, which is just a different name for models of organizational structure. An organizational model is actually a unique configuration of congruent structural dimensions. The most prominent classification of models of organizational structure as configurations of structural dimensions has been provided by Mintzberg (Mintzberg, 1979).

Organizational culture realizes its impact on shaping organizational structure through forming the interpretative schemes of the top management, which selects the organizational structure model (James, James, & Ashe, 1990; Smircich, 1983). Social construction of reality – the process by which the culture is created – generates shared meanings which influence individual interpretative schemes and define the way members of organization perceive and think about the organizational goal and the appropriate way of achieving it. From the managerial perspective, organizational structure is a sort of tool in the hands of management that uses it in order to accomplish the organization's goals. What that tool should be like depends on the managers' ideas regarding what the organization is, what its role is, what its meaning is and what it should be like. Culture, therefore, imposes on the leader and his associates a specific view on the organization, its meaning, its purpose, and

also a suitable mode of its structuring (Alvesson, 2002). Thus, the conscious and planned shaping of organizational structure will be strongly influenced by the meaning that the management assigns to the said relations, which has been imposed on them by the organizational culture (Ranson, Hinings, & Greenwood, 1980). Structure is legitimized through the role of psychosocial processes in its designing: the way that the differentiation and integration activities and the tasks in organization are embedded in the shared meanings. The members of the organization then accept the structuring as legitimate or justified from the aspect of their common values. Legitimization of structure implies that it comprises and expresses organizational culture. In order to use the practical potential of this conclusion to the fullest, it is necessary to investigate how particular cultural values imply certain dimensions, and even models of organizational culture. For example, what models of organizational structure emerge from particular types of organizational cultures: power, role, task and people culture (Handy, 1979)? One view of this harmonization was given by Jančićjević (2013).

Political processes enfold dependency relations which the dominant organizational members or groups can use to shape organizational structure. It is widely recognized in the organizational theory that the structuring of organizations is a privilege of powerful members or groups (Robbins, & Coutler, 2012). Powerful individuals and groups in an organization always design the organizational structure according to their interests. They will structure the organization in a way that will ensure that their power is maintained or increased. In this way, structure is instrumentalized: the structure becomes an instrument of some members or groups in an organization for achieving or perpetuating power. The instrumentalization of structure implies that the structure contains and expresses dependency relations in the organization. In order to use the practical potential of this conclusion, it is necessary to investigate how power structure in an organization determines the models of organizational structure. For example, what organizational models emerge in authoritarian, and what organizational models emerge in democratic structures of power in an organization?

CONCLUSION

The aim of this paper is to develop an integrative framework for analyzing the relationships between organizational culture, power and structure in order to show how the relationships between organizational components, as well as the mechanisms of achieving balance and harmony among them should be understood. The selection of these three components emerged from the idea that the organization must be understood as a state arising from the process at both the individual and organizational levels. The organization members' needs for affiliation, power and achievement generate psychosocial, political and functional actions, and also such

processes at the organizational level. These processes generate organizational culture, power and structure as key elements of an organization. However, the key idea is that culture, power and structure are derived from the wholeness of organizational processes and therefore contain each other as a kind of a hologram. As a result, culture legitimizes power and structure, power instrumentalizes culture and structure, while structure institutionalizes culture and power.

The paper has significant theoretical and practical implications. The theoretical implication is that it shows how further research should be conducted for a deeper understanding of the interrelations between the organizational components and of the mechanisms for establishing internally consistent configurations. Further steps in this kind of research are to analyze interrelations of other organizational configurations' components, such as strategy, leadership, organizational learning, rewarding, etc.

Although the idea is basically theoretical, the analysis presented in this paper has its practical implications. Above all, it shows to the management of organizations why it is necessary to take into account the mutual consistency between culture, power and structure, and also that the changes in one component, at least those deeper ones, cannot be realized without changing the other two components. In order to fully use the practical potential of this paper, it is necessary to conduct additional research to confirm the hypotheses about mutual harmonization of particular organizational culture types, particular power structures, and particular models of organizational structures. The examples of such research already exist (Janićijević, 2013), but they are insufficient and need to be supplemented.

This study has some limitations. First, it is of a theoretical nature and lacks empirical verification. Second, the identification of culture, power, and structure as key organizational components is relatively arbitrary and it is, by all means, possible to build a model of organization composed of other components as well. This is why this analysis is just one of the ways in which we can understand the nature of organizational configurations in greater depth, and this is what gives this paper a somewhat partial character. Also, using just one metaphor of organization – the metaphor of the hologram – also implies the partial character of the study. Still, one must bear in mind that the hologram metaphor was chosen because it was rated as the best analytical tool for understanding the complex nature of interrelationships between organizational components. Other metaphors, such as the metaphors of a machine or an organism, could not help in the analysis that is the aim of this paper. Finally, the practical implications of the paper have only been mentioned, but not realized, because it would surpass the scope of this paper. It has been pointed out how the theoretical analysis of the interrelations between structure, power and culture could be supplemented with the practical findings on their relations.

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КУЛТУРА, МОЋ И СТРУКТУРА ОРГАНИЗАЦИЈЕ: ИНТЕГРАТИВНИ ИСТРАЖИВАЧКИ ОКВИР

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Резиме

Рад има за циљ да развије интегративни истраживачки оквир за анализу међусобних релација организационе културе, моћи и структуре. Организација се посматра као конфигурација међусобно конзистентних компоненти, те се поставља основно истраживачко питање: како организационе компоненте условљавају и

утичу једна на другу. У овом раду се одговор на ово питање даје кроз анализу међусобних односа организационе културе, моћи и структуре применом метафоре холограма. Полазни став рада је да организација има статичку и динамичку компоненту и то како на индивидуалном тако и на организационом нивоу. Потребне чланова организације за припадношћу, моћи и постигнућима, као стање на индивидуалном нивоу, генеришу психосоцијалне, политичке и функционалне акције, као процесе, на индивидуалном нивоу. Те акције се на организационом нивоу претварају у психосоцијалне, политичке и функционалне процесе, као динамичку организациону компоненту. Наведени процеси генеришу организациону културу, моћ и структуру као статичке елементе на организационом нивоу. Ако организацију посматрамо као холограм, онда је јасно да организациона култура, моћ и структура, свака појединачно, произлазе из целокупних организационих процеса. Последица је да организациона култура, моћ и структура садрже једна другу, као и да свака од њих одражава целину организације у себи. Организациона култура проистиче примарно из психосоцијалних процеса и представља сет претпоставки, вредности, норми и ставова који су чланови организације креирали кроз социјалне интеракције и који им помажу да одреде значења реалности која их окружује. Међутим, организациона култура проистиче и из политичких процеса будући да појединци и групе у организацији креирањем њене културе стичу интерпретативну моћ. Културу инструментализују моћни појединци и групе и она у себи садржи и одражава моћ. Култура проистиче и из функционалних процеса у организацији и, као последица тога, она је садржана у структуралним аранжманима у организацији. Зато структура институционализује културу и култура садржи у себи и одражава структуру. Моћ, схваћена као способност појединца или групе да промени мишљење или понашање другог појединца или групе у организацији, проистиче примарно из политичких процеса. Међутим, она проистиче и из психосоцијалних процеса и то тако да култура својим вредностима легитимизује одређене ресурсе као основу за диференцирање моћи. Зато моћ у организацији легитимизује управо култура, па стога моћ у себи садржи и одражава културу организације. Моћ такође проистиче из функционалних процеса у организацији и као таква садржана је у структуралним аранжманима. Зато структура организације институционализује њену моћ, а моћ у организацији садржи и одражава њену структуру. Организациона структура, схваћена као резултат диференцирања и интеграције индивидуалних и групних задатака у остваривању циљева организације, проистиче примарно из функционалних процеса. Она је, међутим, последица и психосоцијалних процеса јер култура организације својим вредностима легитимизује одређени структурални модел употребљен у организацији. Тако организациону структуру легитимизује култура и она у себи садржи и одражава културу организације. Најзад, структура проистиче из моћи у организацији јер је моћни појединци и групе обликују према својим интересима. Зато организациону структуру инструментализују моћни појединци и групе, и она у себи садржи и одражава структуру моћи у организацији. У раду је указано на практичне импликације интегративног истраживачког оквира како кроз дефинисање даљих праваца истраживања односа између културе, моћи и структуре, тако и кроз дефинисање практичних савета менаџменту како да усклади ове три компоненте.

COMPARATIVE ANALYSIS OF ENVIRONMENTAL ATTITUDES OF YOUTH FROM EU MEMBER AND CANDIDATE STATES: CASE STUDY CENTRAL AND EASTERN EUROPE^a

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Abstract

Worldwide, great efforts are being made in order to establish sustainable development at all levels. European Union (EU) member states are obliged to meet the requirements in the area of environmental protection. In this paper, the authors conducted a comparative study of environmental attitudes among young people from both EU transition countries and EU candidate countries. The objective was to determine the differences in environmental attitudes, environmental awareness and self-efficacy of the youth from these two groups of countries and the EU environmental policy implementation level. Results indicated that the influence of EU membership exists when it comes to the environmental attitudes of youth from the analyzed countries. Average values showed the unsatisfactory situation regarding environmental awareness and self-efficacy of respondents. In order to define the relations among environmental attitudes, self-efficacy and environmental awareness, a structural model was created. This analysis showed that these three components work the same way in both groups of countries.

Key words: Environmental Awareness, Environmental Attitudes, Self-Efficacy, Youth, European Union

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КОМПАРАТИВНА АНАЛИЗА ЕКОЛОШКИХ СТАВОВА МЛАДИХ ИЗ ЗЕМАЉА ЧЛАНИЦА ЕУ И КАНДИДАТКИЊА ЗА ЧЛАНСТВО: СТУДИЈА СЛУЧАЈА ЦЕНТРАЛНЕ И ИСТОЧНЕ ЕВРОПЕ

Апстракт

Широм света се улажу велики напори како би се успоставио одрживи развој на свим нивоима. Земље чланице Европске уније (ЕУ) су у обавези да задовоље све захтеве у погледу заштите животне средине. Аутори су у овом раду спровели компаративну анализу еколошких ставова младих који живе у земљама чланицама ЕУ, а које су у процесу транзиције, и земљама кандидаткињама за чланство. Циљ је био да се дефинишу разлике у еколошким ставовима, свести и самоефикасности младих из ове две групе земаља и одреди ниво ефикасности имплементираних еколошке политике. Резултати су указали на то да утицај чланства у ЕУ постоји у случају еколошких ставова. На основу просечних вредности може се препознати незадовољавајуће стање у погледу степена еколошке свести и самоефикасности свих испитаника. Како би се одредиле релације између еколошких ставова, свести и самоефикасности, креиран је структурни модел. Овом анализом је утврђено да ове три компоненте функционишу на исти начин у обе групе земаља.

Кључне речи: еколошка свест, еколошки ставови, самоефикасност, млади, Европска унија.

1. INTRODUCTION

Environmental protection and sustainable development represent the most important values towards which Europe strives. It is a very important fact that the EU policy strongly supports environmental activities. The European Union (EU) has passed numerous legislative norms and regulations in recent decades. To overcome the current and prevent potential environmental problems, the concept of environmental protection has been institutionalized and legally prescribed. The issue which was given special attention is the EU enlargement. Since its establishment, the number of countries increased from 6 founding to the current 27 member countries. However, it is still expanding given that more states strive towards accession to the EU.

Compliance with the environmental protection concept is imperative for any country either aspiring to join the European Union (EU), or already a member country. In the process of joining the EU, candidate countries are required to harmonize their environmental standards with those of the EU and achieve viability by raising the environmental awareness of their citizens. Potential candidate countries are being encouraged by EU to create and implement sustainable development strategies and to prove that they are striving to protect and improve the environment (Perović & Radukić, 2017). Due to their complexity and numerous factors that define them, these issues are a significant obstacle for candidate

states. For instance, joining was a great challenge for the EU and the Czech Republic, Hungary, Slovakia and Poland in 2004. The reason for this was their industrial orientation and aspiration towards economic development, which neglected the natural environment thus causing numerous environmental problems. Limited institutional, financial and human resources cast doubt and fear on further preservation of stability and sustainable development of the EU. Such worries were largely unfounded. Newer members did not act as a block in EU bodies. On the contrary, they joined coalitions of leaders and made efforts to find the solutions for particular environmental issues (Selin & VanDever, 2015). We can say that the same scenario is unfolding in the case of candidate countries - Serbia, North Macedonia, and Albania.

The goal of this study is to determine the level of environmental awareness, attitudes and self-efficacy of youth from the EU transition countries and the EU candidate countries located in Central and Eastern Europe. According to the "Youth in Action Programme for the period 2007 to 2013", youth are considered young people aged between 15 and 28 (Council Directive 1719/2006/EC). The countries involved in this study are Poland, the Czech Republic, Hungary and Slovakia (EU countries), on the one hand, and Serbia, North Macedonia and Albania (non-EU countries) on the other. Therefore, authors tend to identify possible differences among environmental awareness, attitudes and self-efficacy between youth from these two groups of countries by using comparative analysis. The motivation for selecting these three components was the indication that awareness, attitude and self-efficacy play an influential role in youth's sense of environmental responsibility.

Based on the results, a conclusion can be drawn on whether the existing legal framework and environmental education guidelines imposed by the EU work in practice and whether and how it reflects on the environmental awareness of young people.

2. MATERIAL AND METHODS

The questionnaire used in this study was constructed based on the already published instruments and documents (Wilke, 1997; Dunlap, Van Liere, Mertig & Robert, 2000; La Trobe & Acott, 2000). The questionnaire had the total of 59 questions separated into two groups of questions. The first group indicates the demographic characteristics of students (gender, age, study level, nationality). In the second group of questions, a quantitative approach was used in order to collect data on the levels of *Awareness, Attitude and Self-efficacy*. For the gradation of results, a 5 point Likert type scale on environmental pollution issues was used.

Awareness, defined as a concern for what is happening in the environment, was examined by a series of questions inquiring about the influ-

ences, perceptions and worries concerning local environmental issues. Attitude, defined as the acquisition of values, feelings and motivations towards the environment, was examined using the amended NEP 2000 instrument and asking questions regarding a balance between social responsibility and environmental interest, government regulations and political actions taken to protect the environment. The questions in the instrument focused on self-efficacy connected with environmental education, and environmental political and social actions were adapted to the respondents' country of origin. Self-efficacy was measured by a series of questions inquiring about personal levels of satisfaction, importance and perception of natural surroundings.

The online survey was conducted in the period between February and December 2018, encompassing the youth from the Czech Republic, Poland, Hungary, Slovakia, Serbia, North Macedonia and Albania. The extensive data set consisted of the answers from 858 questionnaires (598 from EU countries and 260 from non-EU countries). Software packages used for the data processing were SPSS v. 17 and AMOS v. 8.0.

2.1. Theoretical Framework

The environmental education of individuals should begin in early childhood by respecting environmental values within the family. Particular attention should be directed towards the youth as future decision-makers in environmental protection. They have to be environmentally responsible throughout their lives (Lasso de la Vega, 2006). There are two key reasons for paying close attention to trends related to this age group (Wray-Lake, Constance, Flanagan & Wayne, 2010). First, the theory of generational replacement argues that changes in adolescents' attitudes are important markers of long term social change. Second, young people's environmental concerns also deserve attention due to many examples showing the youth as active agents in protecting the environment.

Determining the level of young people's environmental attitudes can help researchers better understand their actions towards the environment and what it means to them. Accordingly, there is a number of studies that dealt with the environmental attitudes of young people (Yilmaz, Boone & Andersen, 2004; Jenkins & Pell, 2006; Boyes & Stanisstreet, 2012; Zsóka, Szerényi, Széchy & Kocsis, 2013; Atav, Altunoğlu & Sönmez, 2015). Based on a detailed review of scientific facts in the field of environmental attitudes of young people, Rickinson (2001) draws the following conclusions: 1) young people foster positive attitudes towards the environment; 2) young people are less environmentally oriented about specific issues, such as those that are related to their way of life; 3) some of the demographic characteristics influence the attitudes of young people towards the environment.

Among youth, students have the most important role in preserving and protecting nature (Aminrad, Zakaria & Hadi, 2011). Students' population presents a significant segment of society and requires attention in terms of studying environmental culture, opinions, attitudes and behaviour (Erdogan, 2013; Obradovic, Babović & Shpak, 2016). In order to acquire environmental attitudes fully, it is desirable for them to participate in environmental activities (Paivi, Kuitunen & Tynys, 2000). Positive environmental attitudes encourage students to display pro-environmental behaviour (Ari & Yilmaz, 2017).

Solving environmental problems requires improvement of environmental awareness, attitudes and knowledge. Attitudes, knowledge, behaviour and care of young people for the environment will affect the future ecological development and the availability of natural resources directly or indirectly. It is essential to get information on how young people relate to the environment and their feelings towards it. It is also important to become familiar with their contribution and motivation in the preservation and environmental protection. Informing youth on environmental issues influences the creation of positive environmental attitudes. While some researchers think that the participation of young people in environmental courses and activities will increase their responsibility towards the environment and encourage them in dealing with environmental problems, some authors believe that life experience is more effective (Bradley, Waliczek & Zajicek, 1999; Aydin, 2010). In order to set appropriate guidelines for directing young people to act responsibly towards their natural environment and gain specific environmental knowledge, among other things, it is necessary to determine the relations among their environmental awareness, attitudes and self-efficacy.

The evaluation of global environmental problems as major political issues reflects the growing awareness of the problematic relation between contemporary industrialized societies and the physical environment they depend on (Stern, Young & Druckman, 1992). Environmental awareness of an individual is, among other things, determined by the cultural and political context of the society in which they live. The population of developed and prosperous countries is not faced with an economic struggle for survival, so the people are oriented towards post-materialistic goals, such as political freedom, individual self-fulfillment, and environmental protection (Pisano & Lubel, 2017). Environmental behavior of an individual depends on one's economic, political and technological positions.

Environmental awareness can be improved by pointing out that environmental and economic developments are not mutually exclusive. According to Stern's study (2002), social structure influences values and worldviews. Therefore, environmental awareness is dynamic, shaped in a particular cultural and historical process and dependent on the particular state in society.

The attitudes reflect a set of beliefs, reactions and behavioural intentions a person holds concerning the environment. Many authors have studied correlations between the country of origin and environmental orientation of the population (Kemmelmeier, Krol & Youn, 2002; Bechtel, Verdugo, Asai & Riesle, 2006; Franzen & Meyer, 2010; Freymeyer & Johnson, 2010). In some studies, it was found that the environmental attitudes of the population depend on the level of economic development of the country they come from (Franzen & Meyer, 2010; Freymeyer & Johnson, 2010).

The concept of self-efficacy was created by a psychologist, Albert Bandura, in the 1970s. Bandura defined self-efficacy as a “*belief in the ability of organisation and execution of actions needed for the achievement of a certain type of assumptive activities*” (Bandura, 1977: 196). It is based on the importance of subjective perception of personal competence in the different objectives not on real knowledge and skills. Self-efficacy is one of the indicators of ecological behaviour, knowledge and attitudes of young people. It determines the motivation of the individual to act environmentally responsible. In order to solve ecological problems, there is a need for active citizens ready to participate in this process (Teixeira, 2013). Suppose people have strong beliefs in their abilities to change the world around them. In that case, they will produce more effective coping strategies and higher levels of achievement than those showing lower levels of belief in their abilities (Meinhold & Malkus, 2005). Self-efficacy is not a hereditary trait. It develops gradually. However, as years of experience increase, perceived self-efficacy often improves (Sodak & Podell, 1997; Brand & Wilkins, 2007).

Regarding the reviewed literature, the following hypotheses have been derived:

Hypothesis 1. There is a statistically significant influence of the origin country membership in the EU on the youth’s environmental awareness, attitudes and self-efficacy.

Hypothesis 2. Environmental attitudes have a positive influence on environmental self-efficacy.

Hypothesis 3. Environmental attitudes have a positive influence on the level of environmental awareness.

Hypothesis 4. Self-efficacy has a positive influence on the level of environmental awareness.

Out of listed hypotheses, in the research that will be presented here, hypothesis H1 was analyzed using the Independent Samples T-test. In contrast, for hypotheses H2, H3 and H4, the starting - conceptual model of mutual relations and influences among environmental awareness, attitudes and self-efficacy, as well as elements that determine them, being set (Figure 1).

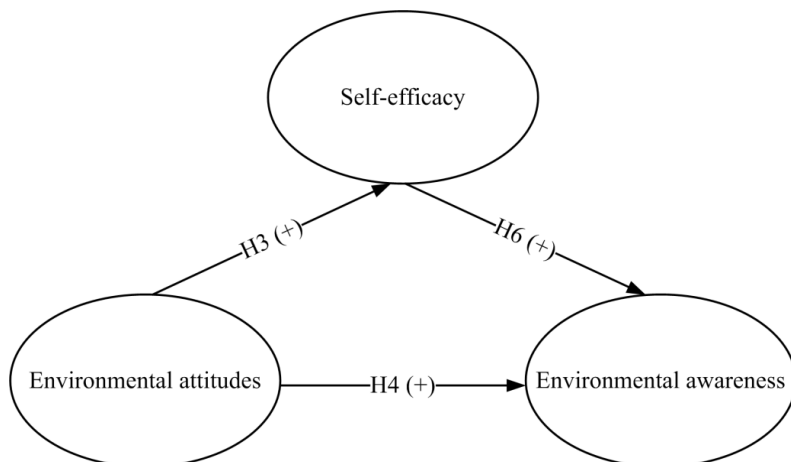


Figure 1. Conceptual model (authors' source)

By testing the hypotheses, one can have a more realistic insight into the advantages and disadvantages of the (non) application of the EU legislative framework and its influence on young people's environmental awareness, attitudes and self-efficacy. Furthermore, because environmental education is the only non-institutionalized EU recommendation in environmental protection, the results will show whether environmental education is satisfactory in both groups of countries and whether it has the same effects on youth from EU member and candidate states in Central and Eastern Europe.

3. RESULTS

In the beginning, a descriptive analysis of the demographic characteristics of the respondents was conducted. The obtained results are presented in Table 1.

In order to examine the dependence between the respondents' answers and the group of the country they come from (EU or non-EU member), Independent samples T-test was applied. The Independent-Samples T-Test procedure compares means for two groups of cases. Variable *membership* was a grouping-independent variable. It was measured on a nominal scale. According to Cooper and Schindler, nominal data collects information on a variable that can be divided into two or more mutually exclusive and collectively exhaustive categories (Cooper & Schindler, 2014). Average responses within each group of questions (environmental awareness, environmental attitudes and self-efficacy) were used as a test variable. Mean AW, ATT and SE have some non-integer values. So, they are measured on the interval scale level. The

Table 1. Demographic characteristics of respondents

Demographic variables	The composition of the sample	
	Categories	Percentage (%)
Gender	Male	60.1
	Female	39.9
Age	15-18	0.7
	19-22	64.6
	23-25	26.8
	26-28	7.9
Nationality	Czech	14.5
	Macedonian	5.1
	Slovak	11.9
	Serbian	24.7
	Hungarian	19.6
	Polish	23.5
	Albanian	0.7

interval scale level is where the difference between variable values is comparable and has an equal distance between each value (Dalati, 2018). The independent variable (membership) influence on each of the test variables was calculated. Based on the results presented in Table 2, a statistical significance ($F = 139.44$ and $p < 0.001$) was noticed only in the case of a group of questions related to environmental attitudes. F value presents the result of testing the significance of differences between group variances, and p is the level of F - test significance, i.e. the mistake claiming that variances are statistically significant.

Table 2. Independent Samples Test results

		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff.	Std. Err.
MEAN_ AW	Equal variances assumed	1.711	.192	-1.559	427	.120	-.07291	.04676
	Equal variances not assumed			-1.518	228.468	.130	-.07291	.04803
MEAN_ ATT	Equal variances assumed	18.204	.000	-.557	427	.578	-.03873	.06954
	Equal variances not assumed			-.608	299.594	.544	-.03873	.06370
MEAN_ SE	Equal variances assumed	.657	.418	-11.808	427	.000	-.47960	.04061
	Equal variances not assumed			-11.032	209.653	.000	-.47960	.04347

Descriptive statistics were used for calculating the mean of answers for each group of questions (Table 3). Based on the obtained

results, a comparison of these values between the EU member and EU candidate countries was made. The obtained results indicate low average values for all three groups of questions (environmental awareness, environmental attitudes and self-efficacy), both in EU member and EU candidate countries. The comparative analysis of the obtained average values shows that environmental attitudes in countries that are not members of the EU are higher (average = 3.45) than in the case of EU countries (average = 2.97). The levels of environmental awareness and self-efficacy were approximately equal in both groups of respondents. Average values for the EU countries and those which are not are low, and are they are around 2.7 if we talk about environmental awareness and 2.0 when it comes to self-efficacy.

Table 3. Descriptive statistics

	Country	N	Mean	Std.dev
MEAN_AW	EU	300	2.69	0.43479
	Non_EU	129	2.76	0.46509
MEAN_ATT	EU	300	2.97	0.36405
	Non_EU	129	3.45	0.43222
MEAN_SE	EU	300	2.04	0.69912
	Non_EU	129	2.08	0.55977

For the testing of the general conceptual model in this paper, the SEM (Structural Equation Modeling) was conducted using the software package AMOS Version 8.0. The first part of this methodology includes an assessment of the model measurement to test whether the model fits well with data collected on satisfactory results, based on reliability analysis. In the second part, the structural model to test the hypotheses is defined. The method of maximum likelihood estimation was used for data analysis. Multi-group confirmatory factor analysis (MGCFA) was used for comparative measurements with two samples from different groups of countries, EU countries and non-EU countries. Multi-group confirmatory factor analysis includes three first-order factors - Awareness, Attitude and Self-efficacy. Table 4 depicts the correlation and confirmatory factor analysis for testing interdependence in many variables, followed by the method of maximum likelihood (Table 5).

Table 4. Correlation matrix

	Eco Attitude	Self-Efficacy	Eco Awareness
Eco Attitude	1		
Self-Efficacy	0.863	1	
Eco Awareness	0.553	0.769	1

Table 5. *Confirmatory Factor Analyses and Inter-Consistency Coefficients*

Scale	Non-standardized parameters	T-value	Cronbach's Alpha	Spearman-Brown Coefficient	Ω
Environmental awareness			0.786	0.592	0.840
EAW1- Influences	0.488	4.970			
EAW2- Perception	-0.16	0.252			
EAW3- Concerns	1.00				
Environmental attitudes			0.742	0.712	0.777
EAT1-Environmental interest	0.901	6.680			
EAT2- Social responsibility	1.00				
Self-efficacy		2.538	0.773	0.657	0.784
SE1-Education	1.00				
SE2- Political and social actions	0.297				

This questionnaire was tested for reliability, scoring ranges of 0.71 to 0.85 in the Cronbach's Alpha coefficient, Spearman-Brown coefficient and Ω where Nannally (1978) proposes values ≥ 0.7 . Cronbach's alpha factor for total population is 0.858, and values per groups are shown in Table 5. Findings are very satisfying, demonstrating a good fit between the measurement model and the data ($\chi^2_{\text{Sat}}=20.6/ df=11$ ($p<0.01$); RMSEA=0.045; NFI = 0.931; IFI=0.967, TLI=0.934, CFI=0.965; GFI=0.987; AGFI=0.967; Normed $\chi^2 = 1.87$).

The purpose of the conceptual model is to perceive reliability among variables. In this case, the confirmatory factor analysis was used, and the results showed that all factor loadings are significant ($p>0.5$). After the estimated conceptual model had tested structural relations, multi-group confirmatory factor analysis (MGCFA) was conducted. It demonstrated no significant differences in factor loadings and critical ratio (<1.96 ; $p > 0.05$) between EU countries and non-EU countries.

To test the differences in the factor loading, it is necessary to set separate but identical conceptual models for EU countries and non-EU countries (Table 6). Cronbach's alpha factor for the first group (EU countries) is 0.820, and for the second group (non-EU countries) is 0.850, which confirms the reliability of both groups. The hypothesis being tested is that the measurement model is valid for both groups of countries. This hypothesis requires that the regression weights, which predict the group variables, are the same for both groups (group invariant). At the same time, the common factor variance and covariance can be different in both groups.

Table 6. Multi-group Confirmatory Factor Analyses

Construct (Fx)		EU countries (n=299)			Non- EU countries (n=130)		
		Regression Weights	C.R.	Cronbach's Alpha	Regression Weights	C.R.	Cronbach's Alpha
Environmental awareness	EAW1	0.846	4.915	0.812	8.917	5.425	0.784
	EAW2	0.352	3.232		0.244	2.619	
	EAW3	1.000			1.000		
Environmental attitudes	EAT1	0.519	3.793	0.644	0.586	4.579	0.744
	EAT2	1.000			1.000		
Self-efficacy	SE1	1.000	1.067	0.687	1.000	1.594	0.729
	SE2	0.172			0.235		

The statistics of chi-square goodness-of-fit that define relations for group invariant and group variant were conducted (Table 7).

Table 7. Good Fit to the data for Group Invariant and Group Variant

	Chi-Square	df	χ	RMSEA	RMR	GFI	AGFI	IFI	CFI
Invariant model	45.2	27	1.67	0.040	0.037	0.973	0.944	0.925	0.920
Variant model	42.2	26	1.62	0.038	0.039	0.974	0.944	0.934	0.929
Accepted fit	/	/	<3	<0.08	<0.10	>0.90	>0.90	>0.90	>0.90

The obtained results indicate that a model set like this leads to a statistically significant decrease value of chi-square ($p < 0.001$), referring to the variant and invariant tested models. Chi-square goodness-of-fit statistics, comparative fit index and model comparison statistics for both groups of models simultaneously are presented in Table 7. Chi-square values for both models have statistical significance; indices for model comparison, RMSEA, RMR, GFI, AGFI, IFI, CFI are higher than 0.9, which is the recommended value (Hoyle & Panter, 1995). Fulfilling the conditions for calculating the coefficients of multi-sample structural trajectories, defined in the previously presented theoretical model (Figure 1), was carried out with satisfactory precision. The regression coefficients (coefficients β) variant group for EU and non-EU countries and determination R^2 for multi-group analysis were used to test the model. The regression coefficient in group variant for a group of EU countries and non-EU countries is presented in Table 8 and Figure 2. Based on the obtained results, it could be concluded that all hypotheses can be substituted for one another in both models.

Table 8. Multi-sample analysis

EU membership	Non-standardized parameters	Standardized parameters	T-value	Causal relations	R ²
EU country					
<i>Eco Attitude – Self Efficacy</i>	0.392 (a)	0.477	4.719	R1: yes	
<i>Eco Attitude – Eco Awareness</i>	0.392 (a)	0.370	4.719	R1: yes	0.417
<i>Self-Efficacy – Eco Awareness</i>	0.684 (a)	0.531	7.240	R1: yes	
Non-EU country					
<i>Eco Attitude – Self Efficacy</i>	0.744 (a)	0.893	3.360	R1: yes	
<i>Eco Attitude – Eco Awareness</i>	0.392 (a)	0.297	4.719	R1: yes	0.651
<i>Self-Efficacy – Eco Awareness</i>	0.684 (a)	0.432	7.240	R1: yes	

(a) Significant at the 99% level

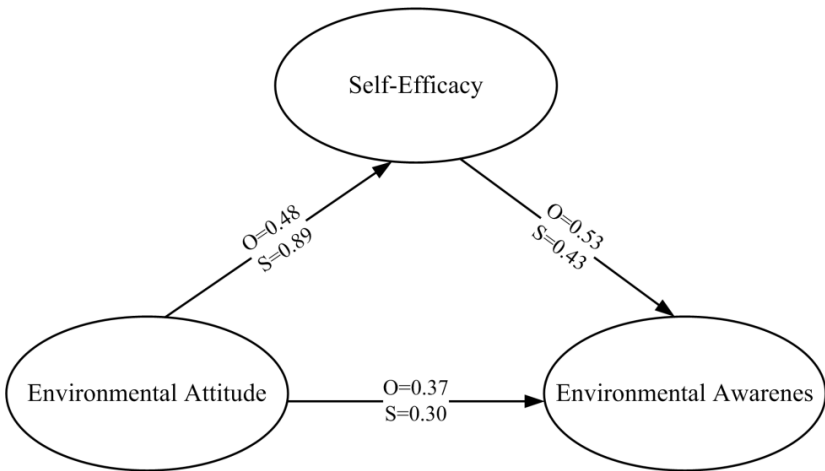


Figure 2. Structural model (MGCFA) between European Union countries and non-European Union countries (authors' source)

The Squared Multiple Correlations (R^2), which determine if dependent group variables differ for the VARIANT group, indicated that the values of coefficients are different for the two groups ($R^2 = 0.417$ for the sub-sample of “EU countries” and $R^2 = 0.651$ for sub-sample of “non-EU countries”).

5. DISCUSSION

This research indicates a low level of environmental attitudes, awareness, and self-efficacy of the respondents. The study conducted by authors Pirani and Secondly (2011) also showed that youth from European countries do not seem to be strongly environmentally orientated. One of the reasons for this unfavourable condition could be an inadequate environmental education program, both in EU member and candidate countries. The Euro-

pean system of education has to resolve conflicts between personal and social, global and local, traditional and modern, long term and short term, competition and equality (Jovanović, Živković, Andjelković, Gatarić & Petrović-Stanisavljević, 2015). In any case, youth's environmental knowledge does not determine their environmental acts (Boeve-de Pauw & Van Petegem, 2011). Environmental activities are hampered if there is a weak link between believed effectiveness and willingness to engage. In this case, social norms and situational characteristics are dominant, while education becomes insufficient (Boyes & Stanisstreet, 2012). Accordingly, low self-efficacy leads to the conclusion that young people are not sufficiently motivated to protect the environment and are insufficiently involved in solving problems in their own countries. This situation is particularly worrying in the case of the analyzed EU member transition states.

The lack of significant differences among environmental awareness, attitudes and self-efficacy of young people from these two groups of countries suggests that the system of environmental education and other institutional EU recommendations were not implemented adequately. As Dagiliut and Liobikien (2015) confirmed, not much has been done to the formal education systems in Lithuania and other Central and Eastern European countries.

The Independent Samples T-test results indicated that the environmental attitudes are significantly determined by the origin of respondents, i.e. whether the country they come from is a member of the EU. A comparative analysis of the obtained average values shows that environmental attitudes are higher in non-EU countries than EU countries. Based on this, it can be concluded that young people from non-EU countries have more positive environmental attitudes than young people from EU transition states. This could be explained in terms of beliefs and feelings towards the environment being more positive within this group of young people since the region's environmental problems are more pronounced. Therefore, they directly witness consequences caused by the human disregard for the natural environment and the negative anthropogenic influence. This increases youth's concern and awareness regarding environmental issues and indicates that personal experience with the threats is more important than schools' environmental protection classes (Robinson & Kaleta, 1999). According to Dunlap (1994), residents of the less economically developed countries tend to rate their local environment much more negatively than highly developed nations. Population from financially stable countries consider global environmental conditions worse than those in their local or national surroundings. This result is in line with Inglehart's (1995) "objective problems, subjective values" hypothesis that states that their pro-environmental orientation originates from concrete local environmental problems rather than from the transfer to post-materialist values. On the other hand, the degree of environmental awareness and self-

efficacy development was approximately equal in both groups. Given that the Independent Samples T-test results showed no statistical significance ($p < 0.05$) in the case of environmental awareness and self-efficacy, hypothesis H1 cannot be fully confirmed.

Further research demonstrated the interconnectedness of these three categories - environmental awareness, attitudes and self-efficacy of young people in both groups of countries. This means that their relations do not differ in terms of country of origin - the EU countries and EU candidate countries, and that these relations work similarly. The presented structural model indicates that the level of environmental awareness of youth from EU and non-EU countries is directly influenced by environmental attitudes and self-efficacy. Therefore, hypothesis H3 and H4 are confirmed in the case of both groups of countries. Environmental attitudes and self-efficacy are, in fact, some of the elements of environmental awareness, and these results were expected. At the same time, hypothesis H2, which is related to the influence of environmental attitudes of youth on their self-efficacy in the EU and non-EU countries, was confirmed.

Empirical research of the defined general hypothetical model confirmed all three hypotheses for both examined groups. Accordingly, individuals with a high level of environmental awareness will eagerly participate in environmental activities (Altin, Tecer, Tecer, Altin & Kahraman, 2014). At the same time, in both cases, active participation will turn into environmental attitudes.

The conducted multi-group analysis indicates that the combined influence of the two predictors (environmental attitudes and self-efficacy) on environmental awareness can be calculated with a higher percentage of variance in EU transition countries than non-EU countries. This suggests that these elements have a larger share in creating young people's environmental awareness in the analyzed EU transition countries. In raising the environmental awareness of youth, competent and educational institutions from the candidate states should pay more attention to the improvement of elements such as environmental knowledge and behaviour.

6. CONCLUSION

One of the most important fields, which the EU authorities are dealing with, is environmental protection. By including environmental aspects in all strategies, policies and development programs, it is possible to provide a safe and environmentally sustainable future and generations with a high level of environmental awareness. The expected effect of campaigns to raise environmental awareness is an environmentally oriented and responsible population. Environmental education has to be carefully treated by the long-term strategy, integrated into all spheres of life. In addition, one should bear in mind a number of socio-economic

factors that characterize the specific region. The learning process should be in accordance with each population group's value system, needs and social norms. It is possible to implement environmentally oriented actions in everyday activities only in this way. This is the reason why environmental education is often an obstacle for candidate countries in the process of their accession to the EU.

By encouraging active participation in cleaning green areas, providing information on environmental issues, and organizing panel discussions and student conferences, educational institutions should promote the development of responsible attitudes towards nature within young people. However, to achieve and promote environmentally responsible behaviour of the population, it is not enough to raise their environmental awareness and knowledge. Young people from Europe should be allowed to develop their sense of belonging to nature and fully involve themselves in the process of its changes. Only by integrating environmental awareness with practical knowledge, and turning them into activities, could we expect success in terms of the preservation and protection of the environment.

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КОМПАРАТИВНА АНАЛИЗА ЕКОЛОШКИХ СТАВОВА МЛАДИХ ИЗ ЗЕМАЉА ЧЛАНИЦА ЕУ И КАНДИДАТКИЊА ЗА ЧЛАНСТВО: СТУДИЈА СЛУЧАЈА ЦЕНТРАЛНЕ И ИСТОЧНЕ ЕВРОПЕ

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Резиме

Последњих деценија, Европска унија (ЕУ) је усвојила бројне законодавне норме и регулативе како би превазишла тренутне и спречила будуће еколошке проблеме. У процесу приступања ЕУ, од земаља које представљају кандидате за чланство, изричито се захтева усклађивање еколошких стандарда са европским, као и интензиван рад и успех у унапређењу еколошких ставова и еколошки одговорног понашања становништва. Еколошко понашање појединаца зависи од економских, политичких и технолошких услова окружења у коме живи. Решавање еколошких проблема се не може реализовати без унапређења еколошких ставова, свести, знања и бриге младих људи који ће, на директан или индиректан начин, својим поступцима и одлукама одредити будуће еколошке прилике и доступност природних ресурса.

Циљ ове студије јесте да се одреди ниво еколошке свести, ставова и самоефикасности младих људи који живе у ЕУ земљама у транзицији и земљама које су кандидаткиње за чланство у ЕУ, а које су лоциране на територији Централне и Источне Европе. Земље које су биле укључене у ово истраживање су Пољска, Чешка, Мађарска и Словачка (ЕУ земље) са једне, и Србија, Северна Македонија и Албанија (земље кандидаткиње) са друге стране. Намера аутора је била да се идентификују могуће разлике између еколошке свести, ставова и самоефикасности младих из ове две групе земаља на основу компаративне анализе и креирања структурног модела.

У раду је коришћена метода анкетања. Упитник се састојао од 59 питања подељених по групама. Прву групу питања чине питања везана за демографске карактеристике испитаника. У другој групи питања примењен је квантитативни приступ како би се одредио ниво еколошке свести, ставова и самоефикасности. Анкетање је вршено онлајн путем, у периоду од фебруара до децембра 2018. године. На тај начин је креиран обиман скуп података који су чинили одговори 858 испитаника (598 из ЕУ земаља и 260 из ЕУ земаља чланица). За обраду података коришћени су SPSS v.17 и AMOS v.8.0. софтверски пакети.

Independent Samples T-test анализа је показала да су еколошки ставови у великој мери одређени пореклом испитаника, односно тиме да ли је земља из које испитаник долази чланица ЕУ или не. Компаративном анализом средњих вредности добијених одговора утврђено је да су еколошки ставови испитаника позитивнији у земљама које још увек нису постале чланице ЕУ. Даљим испитивањем утврђивана је међусобна повезаност три категорије: еколошка свест, еколошки ставови и самоефикасност младих људи из обе групе земаља. Резултати су показали да се ти односи не разликују у зависности од тога којој групи одређена земља припада и да ове категорије слично функционишу – еколошка свест младих је под директним утицајем еколошких ставова и самоефикасности.

На основу резултата овог истраживања може се закључити да није довољно једноставно усвојити законску регулативу у области заштите животне средине и промовисати значај еколошки одговорног понашања и знања међу младима. Њих је потребно непрекидно подстицати да активно учествују у свим дешавањима која се тичу решавања еколошких проблема. Неопходно је систематски радити на развијању њиховог осећаја припадности природи и потреби да се свим својим снагама посвете раду на заштити животне средине. Само интегрисањем свих елемената, еколошка свест се може преточити у свакодневне активности младих које су усмерене ка унапређењу стања природних ресурса.

WHICH DIMENSIONS OF INSTITUTIONAL QUALITY MATTER MORE IN ATTRACTING FDI FLOWS: GREY RELATIONAL ANALYSIS^a

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Abstract

The purpose of this study is to determine the relationship between individual dimensions of institutional quality and inflows of foreign direct investment (hereinafter: FDI) on a sample of European countries in 2020. In order to investigate this relationship, the data used are from the relevant World Bank databases. Taking into account the heterogeneity of the analyzed countries regarding the development level of the dimensions of institutional quality, cluster analysis is applied to define homogeneous groups. After identifying the significance of differences in the development level of the institutional quality dimensions between clusters, the analysis focus is placed on the group of countries that belong to the first cluster. The Gray relational analysis is applied to identify those institutional quality dimensions which development should be improved. The main empirical finding of this study reveals that the relative importance of the individual institutional quality dimensions in determining FDI inflows varies in the observed countries. Also, the analysis shows that a low level of political stability has the greatest negative impact on FDI inflows in countries that belong to the first cluster. Therefore, this study gives policy recommendation regarding the activities that should be taken by the authorities in order to create an enabling institutional environment for FDI in these countries.

Key words: FDI, institutions, European countries, Grey relational analysis

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КОЈЕ ДИМЕНЗИЈЕ ИНСТИТУЦИОНАЛНОГ КВАЛИТЕТА СУ ВАЖНИЈЕ У ПРИВЛАЧИВАЊУ СДИ ТОКОВА - GREY РЕЛАЦИОНА АНАЛИЗА

Апстракт

Сврха овог рада је да утврди однос између појединачних димензија институционалног квалитета и прилива страних директних инвестиција (у даљем тексту: СДИ) на узорку европских земаља у 2020. години. У циљу испитивања ове повезаности, коришћени су подаци из релевантних база података Светске банке. Имајући у виду хетерогеност анализираних земаља у погледу нивоа развијености димензија институционалног квалитета, примењена је кластер анализа како би се дефинисале хомогене групе. Након идентификовања значајности разлике у развијености димензија институционалног квалитета између кластера, у анализи је акценат стављен на групу земаља које припадају првом кластеру. Grey релациона анализа примењена је да би се идентификовале оне димензије институционалног квалитета чији развој треба побољшати. Главни емпиријски налаз ове студије открио је да релативни значај индивидуалних димензија квалитета институција у одређивању прилива СДИ варира у посматраним земљама. Такође, анализа је показала да низак ниво политичке стабилности има највећи негативан утицај на прилив СДИ у земље које припадају првом кластеру. Према томе, ова студија даје препоруке у вези активности које би надлежни државни органи требало предузети како би се створило повољно институционално окружење за СДИ у овим земљама.

Кључне речи: СДИ, институције, европске земље, Grey релациона анализа.

INTRODUCTION

The institutional quality is found in the focus of mainstream economics in explaining differences in economic development between the countries since the late 1990s (Benassy-Quere, Coupet, & Mayer, 2005) when the researchers achieve a consensus that the weak institutions are the main cause of economic problems the developing economies face (Chang 2011). In particular, the empirical study of Acemoglu, Johnson and Robinson (2005) points out the importance of the institutional factor, the so-called social infrastructure in determining the economic performance of countries.

Above all, with the beginning of the transition process in the former socialist countries of Central and Eastern Europe towards a market economy in the early 1990s, the role of building an efficient institutional framework in fostering economic growth and accelerating the comprehensive socio-economic reforms was recognized. At the same time, the role of institutions in determining the FDI inflows in developing economies is becoming an inevitable trend in research efforts to explain the FDI location determinants. As a result, the investigation of institutions-FDI nexus becomes an increasingly relevant area of research.

Since FDI are an important determinant on the economic growth and development of many countries, the literature often stresses that the full development benefits of FDI can be achieved only by assuming the existence of such an institutional framework that not only enables their efficient absorption, but also acts as an incentive to FDI inflows. Moreover, institutional quality is an important determinant of macroeconomic stability and private sector development (Ferreira & Ferreira, 2016: 22).

According to Vittorio and Marani (2006: 17), well-developed institutions are one of the most important determinants in attracting FDI flows through three channels: by improving factor productivity, by reducing the transaction costs, such as corruption-related costs, and by increasing the predictability of the investment environment. Also “the FDI-promoting effect of good institutions might be an important channel of their overall effect on growth and development” (Benassy-Quere et al., 2005: 9).

In this regard, Jude and Leveigue (2014) indicate the existence of a certain threshold level of institutional quality below which the absorption of the positive FDI effects on economic growth is not possible. To gain the benefits of FDI-led economic growth, measures aimed at improving the institutional environment should precede policies to attract FDI in the host country. Similarly, Brahim and Rachdi (2014) found that only in the countries with good institutions FDI has positive impact on economic growth. These authors conclude that the public authority efforts just below a certain threshold level value for certain institutional environment indicators, such as Investment profile, Democratic Accountability and Government stability (0.006, 0.206 and 0.206, respectively) will result in a sharp increase of the elasticity of FDI induced growth. Besides, the study conducted by Trojette (2016) indicates that institutional threshold for channeling the FDI positive growth impact increases as the quality of institutions becomes better.

To the best of the authors' knowledge, only one of the previous studies, the study of Victoria and Martin (2018), examine the relationship between these two variables in the case of European countries. Therefore, the aim of this paper is to examine the dispersion in the institutional quality development in European countries and the sensitivity of inward FDI flows to the level of development of individual institutional quality dimensions in the observed countries.

After these introductory considerations, this paper is organized as follows: section two provides literature review of the most influential empirical studies regarding the relationship between FDI and institutions. Section three presents data sources and methodology used in this research, followed by the discussion of the empirical results. Finally, the last section, alongside with the concluding remarks, provides policy recommendations and the priority directions for future research.

1. LITERATURE REVIEW

The existing empirical literature on the relationship between institutions and FDI flows does not offer a unique attitude on the importance of this factor in determining inward FDI flows. The results of empirical research on the relationship between these two variables differ depending on the starting base in the selection of variables for measuring the impact of the institutional quality on the FDI inflows, as well as the applied methodology for the assessment of institutional quality.

From the aspect of the variables used as proxies for institutional quality to measure the impact of institutional quality on FDI flows, the empirical literature on the institutions-FDI nexus can be divided in three groups of research. The first group consists of those studies that provide the evidence on the impact of individual institutional quality dimensions on FDI inflows. The second group, consisting of a relatively small number of studies, focused on the research of the importance of institutions in a broader sense to determine the FDI inflows, employing a variety of institutional set of indicators (as discussed in Acemoglu, Johnson, & Robinson, 2003; North, 1991). And finally, the third group of studies concentrated towards examining the impact of institutional quality composite index on FDI inflows. Since in our research we use six variables as a proxy for institutional quality, this research paper provides an analysis of relevant studies on the relationship between FDI inflows and certain aspects of institutional quality will be performed.

Although some studies neglect the existence of positive FDI-institution nexus (see Bellos & Subasat, 2012; Nondo, Kahsai, & Hailu, 2016), it has been confirmed in a relatively large number of empirical studies.

By analyzing the relevant empirical literature, it was found that one of the first variables used as a proxy for institutional quality in the investigation of institution-FDI nexus was political stability. Among the earliest studies on this issue, we highlight the study conducted by Levis (1979). He examines the relationship between the political instability and FDI flows in developing countries, and finds that political stability is an important, but not the primary determinant of the FDI flows. Similarly, Root and Ahmed (1979) find that those developing countries that achieve comparatively high growth rates and per capita GDP, and have good infrastructure conditions and a high degree of political stability also achieve a greater FDI inflow in the manufacturing sector. Also, Schneider and Frey (1985) find that the political instability significantly reduces the FDI inflows in a group of 80 less developed countries. Political instability creates uncertainty regarding the realization of future income (Bailey, 2018) and, on that basis reduces the attractiveness of a potential host country for FDI inflows.

The level of corruption as a proxy for national institutional quality is also used as a significant variable in the investigation institution-FDI

nexus. As a cancerous social disease (Park, 2003), the high level of corruption worsens the quality of institutional infrastructure and destimulates the foreign investors' decisions to undertake FDI (Wei, 2000).

The high level of corruption increases operational inefficiency (Habib & Zurawicki, 2002), and deviates the investors' decision to other cheaper investment locations. Host countries with high levels of corruption are desirable destinations for FDI because: a high level of corruption increases the cost of investment, due to less transparency of local bureaucracy (Smarzynska & Wei, 2002), since "foreign investors have to pay extra costs in the form of bribes in order to get licenses or government permits to conduct investment" (Al-Sadig, 2009: 269). These extra costs, according to Li and Ferreira (2011), represent additional transaction costs that encourage foreign investors to avoid any formal relationship with government.

The level of corruption is closely associated with the rule of law, whereas in those economies where contract enforcement quality, property rights protection and legal system quality are weak, the corruption rises. In this case, uncertain and non-transparent business environment is created (Drabek & Payne, 2002), which reduces the expected profitability of investment projects by increasing transaction costs and on that basis, creates a barrier for larger FDI inflow (Kinoshita & Campos, 2004). According to Knack and Keefer (1995), strong legal institutions that protect property rights impel the larger FDI inflows in the host country and provide full absorption on the growth enhancing effects of institutions. In other words, strong property rights protection contributes not only in terms of attracting the larger quantum of FDI inflows, but also regarding efficient resource allocation, as confirmed by the study of Globerman and Shapiro (2003).

Regarding the voice and accountability indicator, in the available empirical literature there is some disagreement as to whether the higher FDI inflow is realized in democratic or in autocratic political systems. Asiedu and Lien (2011) noted that one of the reasons that explain the tendency of multinational corporations to undertake FDI in autocratic countries is the lack of control system and verification of persons responsible for the execution of public functions by the electorates, as is the case in democratic systems. In cases where there is no democratic control of the concept and conduct of economic policy, undertaking the FDI in autocratic countries represents a profitable alternative, since MNCs realize greater benefits in the form of investment incentives or lower labor costs, due to the lack of union that protect workers' rights. Among the first authors who questioned the validity of the assumption that democratic political systems attract smaller volume of inward FDI flows is Jensen (2003). He argues that the FDI inflows are 70 percent higher in democratic political systems than in autocratic countries. These results are in line with the

study of Harms and Ursprung (2001) who reject the ‘political repression boosts FDI’ hypothesis, suggesting that the MNCs are attracted more with investment opportunities in those countries where there is a high degree of civil liberties and political freedom.

Government effectiveness has been used in the study of Globerman, Shapiro and Tang (2006) as an indicator of institutional quality. They suggest that good governance encourages the FDI inflow indirectly, by creating favorable business opportunities. The high level of political capacity of host country government in conducting the open door policy signalizes to the potential foreign investors that there exists strong policy commitment for the profitable investment project realization (Coan & Kugler, 2008), while restrictive policy (such as nationalization of the foreign affiliation assets in the host country) closes the door for FDI inflows (UNCTAD, 1998: 91).

Finally, in the modern market systems the state is attributed, *inter alia*, the regulatory function in all those areas where the market mechanism fails to work efficiently, or where the state has an interest regarding the conditions under which economic activity takes place. The impact of regulatory institutions on the FDI inflows highly depends on the “laws and policies enacted and enforced and on the way firms respond” (Holmes, Miller, Hitt, & Salmador, 2012: 10). However, as noted by Cuervo-Cazurra and Genz (2008) foreign investors matter more for regulatory quality rather than the level of imposed regulations. That is, in a highly regulated country, the risk and uncertainty of doing business is lower than in the poorly designed regulatory settings. This is confirmed in a study of Kaditi (2010).

Starting with an assumption that institutions-FDI nexus differs across countries, Kurul (2017) expresses doubt regarding the findings of numerous studies that showed the existence of a linear relationship between institutions and FDI. He goes a step further in research and finds that below a certain threshold value of 0.40 the institutional quality variable has no role in determining FDI inflows. This directly indicates that the relationship between FDI and institutions is not linear and that the above identified critical value, FDI showed exceptional sensitivity to changes in the quality of institutions.

2. DATA SOURCES AND METHODOLOGY

The empirical research of the relationship between institutions and FDI inflows had been intensified after the 1990s, when a cross-national statistical empirical material on the set of institutional variables was ascertained and the methodology for comparing countries according to the degree of achieved institutional quality developed. This allowed us to obtain the opinion on the institutions-FDI nexus, as well as to more clearly

determine the role of institutional determinants in determining FDI inflows. Also, this has provided the opportunity to statistically ascertain the influence of institutional quality on FDI inflows and based on the empirical results make recommendations to policy makers regarding the activities for the improvement of institutional quality in order to encourage FDI inflows.

The objective of this paper is to examine the development level of individual dimensions of institutional quality and their relationship with the FDI inflows for 42 European countries in 2020. Therefore, the following hypotheses have been established.

H1: European countries are very heterogeneous in terms of institutional quality; while EU member states achieve the best performances.

H2: The relation between the development level of individual institutional quality dimensions and FDI inflows determine the importance of individual dimensions in achievement targeted levels of institutional quality.

The data from World Development Indicators (for FDI) and Worldwide Governance Indicators (for institutional variables) were employed for the validation of the starting hypotheses. In this study, the dependent variable is net FDI inflows as percentage of GDP (FDI) as the proxy measure of the FDI. There are numerous reasons, well established in the existing empirical literature on FDI, in favor of using this relative measure of FDI rather than absolute measure (net FDI inflows) (see Lewis, 2008). First, the scale effects, that is, the effects of the country size are placed under control by selection of the relative measure (Kurul & Yalta, 2017). Second, as noted by Lewis (2008), in host countries that are not desirable investment destinations, FDI not only plays a small role in the economy, but also the ratio of FDI net inflows to GDP tends to be lower. Thus, using absolute measures may blur the picture regarding the role that FDI plays in the economy of the host country.

The question is how to measure the quality of institutions. This task becomes especially challenging, because at the country level, there is no comprehensive data set that covers all aspects of an institution (Economides & Egger, 2009). There are numerous indicators of the quality of the institutional environment that, depending on the types of institutions, can be classified into different categories. For the purpose of this study, a set of six measurable governance indicators, developed by Kaufmann, Kraay and Mastruzzi (2010) and included in the World Bank's Governance Indicators database, have been used: Voice and Accountability (VA), Political Stability and Absence of Violence/Terrorism (PV), Government Effectiveness (GE), Regulatory Quality (RQ), Rule of Law (RL), Control of Corruption (CC). These six indicators capture various aspects of institutional quality. The first two are related to the political institutions, the second two are related to the economic, while the last two are related to the administrative setting. Although each of these indicators serves to give a full explanation of the various aspects of the same phenomenon,

they are not mutually exclusive, but support each other, because they are situated in the relationships of interconnection and mutual dependence (Globerman & Shapiro, 2002; Mauro, 1995). For example, more efficient governance can potentially contribute to the improvement of the regulatory environment, while the high level of rule of law can reduce corruption. Finally, all together, they can contribute to the increase of the level of economic development. The analysis in this study was based on the value of institution independent variables measured in percentile rank terms, ranging from 0 (lowest) to 100 (highest).

In order to prove the above assumptions, the following methods were applied: cluster analysis, Kruskal-Vallis test, and Grey relational analysis (GRA). Cluster analysis is a method of multivariate analysis used in data classification, in this case in the grouping of countries in homogeneous groups. In order to test whether there are statistically significant differences in the average values of the institutional quality dimensions between homogeneous groups of countries obtained by applying cluster analysis, the non-parametric alternative to the analysis of variance, named Kruskal-Vallis test, has been applied.

GRA is applied for the purpose of comparing the institutional development level of the national economy. The application of this analysis is especially significant in circumstances where there is no sufficiently precise and clear information about the observed category. "GRA is a quantitative analysis to explore the similarity and difference of development trends among elements used to measure the relation among elements" (Huang & Lin 2009: 1132). The essence of this analysis is the relationship between two series. This analysis will serve as the basis for providing recommendations to the policy makers in which direction their activities should be directed in order to improve the individual dimensions of institutional quality.

The basis of this analysis represents the calculation of Grey relational coefficients (GRC). The calculation procedure for these coefficients firstly implies the normalization of the analyzed data, so that they are reduced to the same scale. In this case, there is no normalization because the value of all dimensions are given on the same scale, e.g. ranging from 1 to 100. According to the Grey relational methodology, parameter values in the selected sample are compared with reference series. Elements which are necessary for the calculation of the GRC may be generally represented as follows:

X_0 is a referential series with k entities, while x_1, \dots, x_N are the data series which are compared with referential series.

$$\begin{aligned}
x_0 &= [x_0(1), x_0(2), \dots, x_0(j), \dots, x_0(k)] \\
x_1 &= [x_1(1), x_1(2), \dots, x_1(j), \dots, x_1(k)] \\
&\vdots \\
x_j &= [x_j(1), x_j(2), \dots, x_j(j), \dots, x_j(k)] \\
&\vdots \\
x_N &= [x_N(1), x_N(2), \dots, x_N(j), \dots, x_N(k)]
\end{aligned}$$

In this case, the referential series consists of maximum values of all six dimensions from WGI, thus $k=6$. Each country in the sample represents separate series. According to the number of countries included in the analysis, $N=8$.

The absolute difference (Δ_{0i}) of the compared series and the referential series should be obtained by using the following formula:

$$\Delta_{0i}(j) = |x_0(j) - x_i(j)| \quad (1)$$

and the maximum and the minimum difference should be found.

GRC (γ_{0i}) between the series being compared with the referential series for the j -th value, i.e. in this case the cluster, is obtained by the following formula:

$$\gamma_{0i}(j) = \frac{\Delta \min + \Delta \max}{\Delta_{0i}(j) + \Delta \max} \quad (2)$$

where $\Delta \max = \max \max \Delta_{0i}(j)$, $\Delta \min = \min \min \Delta_{0i}(j)$.

Grey relational grade (GRG, Γ_{0i}) for each series x_i can be calculated by summarizing GRC weighted values.

$$\Gamma_{0i} = \sum_{j=1}^k w_j \gamma_{0i}(j) \quad (3)$$

The final value of GRG represents the average value of grades obtained from the equation (3). "The higher value of the GRG means that the corresponding parameter is closer to optimal" (Hasni, Tabatabaei, & Amiri, 2012: 83). Optimal parameter is the defined target value of each dimension in the best performing countries.

3. EMPIRICAL RESULTS AND DISCUSSION

The analysis covered 42 European countries. In order to confirm the first hypothesis, the hierarchical cluster analysis is applied, whereby the method for connecting the European countries in the homogeneous groups, i.e. clusters, was Within group linkage. According to this method, the dissimilarity between two clusters is represented by the average of all the possible distances between the cases within a single new cluster determined by combining clusters.

The three homogeneous groups are created with a different number of countries. The largest number of countries found in the second cluster,

covering, among others, 25 EU countries, except Bulgaria and Cyprus which were excluded from the analysis due to the unavailability of data. Bulgaria, together with Albania, Armenia, Montenegro, North Macedonia, Serbia and Turkey, is in the first cluster (Table 1).

Table 1. The Structure of the Cluster by Country

Cluster 1 n=7	Cluster 2 n=30	Cluster 3 n=5
Albania	Austria	Latvia
Armenia	Belgium	Lithuania
Bulgaria	Croatia	Luxembourg
Montenegro	Czech Republic	Malta
North Macedonia	Denmark	Netherlands
Serbia	Estonia	Norway
Turkey	Finland	Poland
	France	Portugal
	Georgia	Romania
	Germany	Slovak Republic
	Greece	Slovenia
	Hungary	Spain
	Iceland	Sweden
	Ireland	Switzerland
	Italy	United Kingdom

Source: Authors research

The average level of accomplishment (percentile rank) of certain institutional quality dimensions by the clusters is given in Table 2. The average values of dimensions given in the table indicate the performances of clusters. The second cluster has the highest average value of the analyzed dimensions of institutional quality, which indicates that this cluster consists of the countries with the highest level of institutional development. Regarding the level of institutional development, then follow the countries that belong to the first cluster, while in the countries that belong to the third cluster the institutional development is at the lowest level.

Table 2. The Average Values of Indicators by Clusters

Cluster	Descriptive statistics	VA	PS	GE	RQ	RL	CC
1	Mean	45.69	41.37	52.14	62.03	48.56	44.51
	Std. Deviation	10.72	16.74	3.39	6.35	5.85	9.76
2	Mean	84.18	72.30	83.27	84.80	83.58	81.93
	Std. Deviation	13.37	14.57	12.98	1.65	12.93	14.24
3	Mean	32.26	22.92	33.66	40.20	29.42	30.00
	Std. Deviation	17.72	7.68	15.21	9.46	10.96	11.03
Total	Mean	71.58	61.26	72.17	75.69	71.29	69.51
	Std. Deviation	24.35	23.08	21.98	18.47	23.40	24.07

Source: Authors research

There is a large gap in institutional development between the countries that belong to the second cluster and those which are classified into the first and third. The institutional quality in the group of countries in the third cluster is on the average about 50 percent lower compared to the countries in the second cluster. Better performances regarding the institutional development, are to certain extent, realized by the countries from the first cluster, in which the quality of institutions is on the average around 32 percent lower compared to the countries in the second cluster.

In order to test the significance of the observed differences Kruskal-Vallis test has been applied, as the preconditions for the application of the one-way factor analysis have not been fulfilled. Since the realized level of significance (Table 3) is lower than 0.05, the hypothesis that there are differences in the average values of the institutional quality between created groups (clusters) of countries can be confirmed.

Table 3. Test Statistics^{a,b}

	VaC	PS	GovE	RQ	RL	CC
Chi-Square	24.204	22.592	23.369	23.602	25.664	24.966
df	2	2	2	2	2	2
Asymp. Sig.	.000	.000	.000	.000	.000	.000

a. Kruskal Wallis Test

b. Grouping Variable: Average Linkage (Within Group)

Source: Authors research

In the next step, the analysis will be focused on the countries that belong to the first cluster. Based on the link between FDI inflows and the institutional quality dimensions, the analysis is aimed at determining their contribution to the achievement of the targeted level of institutional quality. In Table 4 the values of all six institutional quality dimensions, as well as the targeted values of best performing countries in this context are given.

Table 4. The Values of Indicators and Targeted Values

Country	VA	PS	GE	RQ	RL	CC
Albania	51.20	49.50	48.10	60.60	40.90	31.70
Armenia	49.30	25.90	48.60	61.10	51.90	57.70
Bulgaria	56.00	60.80	50.50	69.70	51.40	46.20
Montenegro	48.80	47.20	53.40	64.90	55.30	56.30
North Macedonia	50.20	50.50	57.70	68.80	52.40	38.00
Serbia	40.60	43.90	54.30	57.20	47.60	37.50
Turkey	23.70	11.80	52.40	51.90	40.40	44.20
Target value/Country	100.00	96.70	99.50	99.00	100.00	100.00
	Norway	Iceland	Switzerland	Finland	Finland	Denmark

Source: Authors research based on the World Bank Worldwide Governance Indicators database, December 2021

In the first dimension, VA, maximum percentile-rank in the amount of 100 is recorded in Norway. In Finland and Denmark, the maximum percentile rank (100) of the RL and CC dimension, are recorded, respectively. In the second, third and fourth dimensions, a maximum percentile rank in amount of 96.7, 99.5 and 99.00 is recorded in Iceland, Switzerland and the Finland, respectively.

Calculating the difference between the values of the individual dimensions by countries and target value (equation 1), the results were obtained, as shown in Table 5.

Based on the calculated deviation and by applying the equation 2, the values of GRC were obtained. The maximum value of the coefficient (1) represents the minimum distance from the target value.

Table 5. Deviation from Target Values

Country	VA	PS	GE	RQ	RL	CC
Albania	48.8	47.2	51.4	38.4	59.1	68.3
Armenia	50.7	70.8	50.9	37.9	48.1	42.3
Bulgaria	44.0	35.9	49.0	29.3	48.6	53.8
Montenegro	51.2	49.5	46.1	34.1	44.7	43.7
North Macedonia	49.8	46.2	41.8	30.2	47.6	62.0
Serbia	59.4	52.8	45.2	41.8	52.4	62.5
Turkey	76.3	84.9	47.1	47.1	59.6	55.8

Source: Authors research

Table 6. Grey Relation Coefficients

Country	VA	PS	GE	RQ	RL	CC
Albania	0.96	0.91	0.91	0.89	0.88	0.81
Armenia	0.95	0.78	0.91	0.90	0.97	1.00
Bulgaria	1.00	1.00	0.93	1.00	0.96	0.91
Montenegro	0.94	0.90	0.96	0.94	1.00	0.99
North Macedonia	0.95	0.92	1.00	0.99	0.97	0.85
Serbia	0.89	0.88	0.96	0.86	0.93	0.85
Turkey	0.79	0.71	0.95	0.81	0.88	0.89

Source: Authors research

Table 7. Spearman's Rho Correlation Coefficients and Weights

	VA	PS	GE	RQ	RL	CC
Correlation coefficients	0.217	0.051	0.181	0.188	0.165	0.260
Weights	0.204	0.048	0.170	0.177	0.155	0.245

Source: Authors research

In order to calculate the final GRG it is necessary to weight the calculated value of GRC by appropriate weights to emphasize the importance of individual dimensions in the structure of GRG, and in this particular case, the dimensions of institutional quality. The weights are

calculated based on the values of correlation coefficients between individual institutional quality dimensions and FDI inflows in all European countries (see Table 7).

Table 8. Weighted GRC and GRG

Country	VA	PS	GE	RQ	RL	CC	Grade
Albania	0.196	0.044	0.155	0.158	0.137	0.198	0.888
Armenia	0.194	0.037	0.155	0.159	0.150	0.245	0.940
Bulgaria	0.204	0.048	0.158	0.177	0.150	0.222	0.959
Montenegro	0.193	0.043	0.163	0.167	0.155	0.242	0.963
North Macedonia	0.195	0.044	0.170	0.175	0.151	0.208	0.944
Serbia	0.181	0.042	0.164	0.152	0.145	0.207	0.892
Turkey	0.161	0.034	0.161	0.144	0.136	0.218	0.854

Source: Authors research

Based on the values of Spearman's rho correlation coefficient, shown in Table 7, it can be seen that the highest level of direct agreement with the FDI inflows has the dimension of institutional quality referred to CC (0.260), followed by the VA (0.217) and RQ (0.188), that show the same level of agreement with the FDI inflows. The lowest level of correlation with the FDI inflows refers to PS (0.051), which indicates that there is interdependence between these two variables.

The weights related to GRC are matched to the degree of agreement with the FDI inflows. Thus, the largest share in the structure of GRG has CC (0.245), while PS (0.048) has the lowest share. Weighted values of the GRC, as well as calculated value of GRG, are shown in Table 8.

The ranking of the selected countries has been made according to the weighted values of the GRC and the calculated value of GRG (Table 9). The highest rank (1) is assigned to a highest weighted value GRC, and thus the calculated value of the GRG. The highest rank of each of the analyzed institutional quality dimensions indicates that this dimension in the relevant country, taking into account the relation with FDI, is more developed compared to other countries, i.e. that according to this dimension given country is closest to the countries that are grouped in the third cluster (cluster with the highest level of institutional quality).

Table 9. Country Rank According to GRC and GRG

Country	VA	PS	GE	RQ	RL	CC	Rank
Albania	2	3	7	5	6	7	6
Armenia	4	6	7	4	4	1	4
Bulgaria	1	1	5	1	4	3	2
Montenegro	5	4	3	3	1	2	1
North Macedonia	3	3	1	2	2	5	3
Serbia	6	5	2	6	5	6	5
Turkey	7	7	4	7	7	4	7

Source: Authors research

According to the obtained ranks, Bulgaria is the closest to the second cluster regarding the VA, PS and RQ institutional dimensions; North Macedonia in terms of GE; Montenegro in terms of RL; and Armenia is closest to second cluster regarding the CC institutional dimension.

Taking into account all the dimensions of institutional quality, the closest to the countries of the second cluster is Montenegro (rank 1), followed by Bulgaria (rank 2), and North Macedonia (rank 3). After them, on the rank list of institutional quality the highest position is taken by Armenia and Serbia. Albania and Turkey are far behind the countries that belong to the second cluster. Regardless of the fact that the most developed institutional dimension in Albania is VA, other institutional quality dimensions are very poorly developed, as is also the case with Turkey.

CONCLUSION

This paper investigates the dispersion in the development of institutional quality and sensitivity of inward FDI flows (measured in FDI as percentage of GDP) on the development level of individual institutional quality dimensions in European countries for 2020. For this purpose, the empirical analysis in this paper relies on the usage of a set of institutional quality indicators from the World Bank's Worldwide Governance Indicators database. These indicators are grouped into six different categories, as follows: Voice and Accountability (VA), Political stability and Absence of Violence/Terrorism (PS), Government Effectiveness (GE), Regulatory Quality (RQ), Rule of Law (RL), and Control of Corruption (CC).

Research results and discussions can be systematized in several segments.

When making a decision for FDI location, foreign investors put, among other factors, an emphasis on the host country institutional quality. A review of relevant literature finds that institution-FDI nexus causes many controversies in the extensive empirical literature on FDI. However, the arguments in favor of the growing importance of this determinant of FDI inflows encounter empirical support in a number of empirical studies.

Based on the obtained empirical results of the cluster analysis and grouping of the countries in the clusters, the first defined hypothesis of this study is partially proven - there is pronounced institutional heterogeneity among European countries. Contrary to the expected results, all EU member states do not achieve best institutional performance. EU Member country - Bulgaria, along with non-EU countries - Albania, Armenia, Montenegro, North Macedonia, Serbia and Turkey are classified into the first cluster, which by the quality of the institutions does not achieve the best performance. The existence of significant differences in the average values of all six institutional quality dimensions between the formed clusters, additionally confirms the results of the applied Kruskal-Vallis test.

Previously obtained results define the focus of further research. In order to determine the distance of the countries in the first cluster to the frontier – best performing countries in terms of the development of individual institutional quality dimensions, Gray relational analysis has been applied. The results clearly point to the relative importance of institutional quality indicators in determining FDI flows in the countries that belong to the first cluster (Albania, Armenia, Bulgaria, Montenegro, North Macedonia, Serbia and Turkey). In other words, the empirical results confirm the second hypothesis - not all indicators of institutional quality have equal importance in determining FDI inflows in the observed countries, which is in line with the research of Kurul and Yalta (2017). Observed by the dimensions of institutional quality, the greatest importance for FDI inflows in the countries of the first cluster, according to the obtained values of weights that are related to the GRC, belongs to CC (0.245), while PS has minor importance (0.048).

The results obtained by the ranking of countries based on the weighted values of GRC and GRG calculated value indicate that Montenegro, Bulgaria and North Macedonia are closest to the best performed cluster regarding the development of all institutional quality dimensions, taking into account the relationship with the FDI inflows. This result is not surprising for Bulgaria given that it has the status of full membership in the EU. Lower institutional performances of other countries in this cluster are the consequence of still unfinished transition processes and the need for numerous structural adjustments of their economies to the challenges of the European integration processes.

An essential question in designing and implementing the policies towards FDI is which dimensions of institutional quality matter more in determining the FDI inflows in the European countries. In this regard, the contribution of this paper is twofold. First, this paper provides a valuable contribution to the development of the empirical literature on the relationship between the institutions and the FDI inflows in the European countries by employing Gray relational analysis. The application of this method made it possible to identify those dimensions of established institutional infrastructure that have the greatest impact on FDI inflows, and to map out the key institutional areas that should be improved in order to achieve larger FDI inflows. To the best of our knowledge, none of the existing empirical studies in the literature has been conducted by employing this method, especially not on the case of the European economies.

The second contribution pertains to the ranking of countries from the first cluster according to the GRC and GRG, which made it possible to provide not only the recommendation on which dimensions of the institutional framework should be improved in order to achieve greater FDI inflows, but also clearly determine the relative position of the first cluster countries in relation to the second cluster countries.

Empirical findings of this study have important policy implications for European countries grouped in the first cluster. First, since those European countries with well-developed institutional infrastructure achieve higher FDI inflows, the improvement of critical institutional quality dimensions in European countries in the first cluster represents a priority area of action for policymakers in the future. For these countries, political stability represents that dimension of institutional quality that poses the greatest barriers to FDI. The reason of being that is the low level of political stability diverts the decisions of potential foreign investors, since it increases the risk and uncertainty regarding the realization of a particular FDI project that satisfies the basic investors' expectations. In addition to that, to increase the level of political stability, the activity of the policy makers should be directed towards enforcing the rule of law, as the dimension of institutional environment that does not directly encourage FDI inflows, but indirectly increases the predictability of investment and provide guarantees regarding the FDI realization.

Furthermore, from the perspective of the development of institutional quality dimensions at the country level, in order to encourage greater FDI inflows, policy makers should consider engaging in the activities in the following areas: raising the government effectiveness and effective control of corruption in Albania, which are bottleneck in administrative settings for FDI and undermine respect for the rule of law; in Armenia and Bulgaria, emphasis should be placed on increasing the efficiency of the government; increasing the level of democracy and strengthening of political institutions are of the utmost importance in Montenegro and North Macedonia; the priority task in the future in Serbia is imposing the continuation of the regulatory reforms implementation and the process of legislation harmonization with EU *acquis* in order to improve the quality of legislative regulation and increase the ability of regulatory authorities to control crime, as well as increasing the level of citizen participation in political decision-making and more effective protection of human rights as a precondition for building a market economy and democratic society; in Turkey, emphasis should be placed on improving the institutional quality in four dimensions: respecting democratic principles, strengthening political stability, improving the quality of legislative regulations and the creation of conditions for effective law enforcement.

The presented research has not examined the impact of institutions on FDI led economic growth, but this could be a good starting point for our future research. Also, whereas different types of FDI have different effects on the host country's economic development, the impact analysis of the institutions on different types of investments in terms of their motivation can be a very interesting area of research in the future.

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КОЈЕ ДИМЕНЗИЈЕ ИНСТИТУЦИОНАЛНОГ КВАЛИТЕТА СУ ВАЖНИЈЕ У ПРИВЛАЧИВАЊУ СДИ ТОКОВА: *GREY* РЕЛАЦИОНА АНАЛИЗА

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Резиме

Практично искуство је потврдило да је максимизирање позивитних ефеката страних директних инвестиција на привредни развој у савременим условима, између осталог, одређено постојањем таквог институционалног оквира који ће омогућити пуну апсорпцију користи и подстицајно деловати на прилив страних директних инвестиција у потенцијалну земљу домаћина. Међутим, анализа утицаја институционалног фактора на прилив страних директних инвестиција представља веома сложен и изазован задатак који захтева мултидимензионални приступ изучавању. Поврх свега, таква анализа је додатно оптерећена чињеницом да у савременој литератури још увек не постоји опште прихваћена дефиниција институција, услед постојања значајних разлика у полазним основама истраживача при дефинисању овог развојног феномена, као и да постоје бројни индикатори институционалног квалитета помоћу којих се врши мерење утицаја институција на прилив страних директних инвестиција.

Извршено истраживање односа између појединих димензија институционалног квалитета и прилива страних директних инвестиција у европским земљама засновано је на сету индикатора институционалног квалитета из базе Светске банке, тзв. Индикаторима доброг управљања. Анализа је показала да (1) постоје значајне разлике у просечним вредностима свих шест димензија институционалног квалитета између формираних кластера, као и да (2) индикатори институционалног квалитета немају подједнак значај у одређивању прилива страних директних инвестиција у земљама које припадају првом кластеру (Албанија, Јерменија, Бугарска, Црна Гора, Северна Македонија, Србија и Турска). Такође, утврђено је да су Црна Гора, Бугарска и Северна Македонија, на основу израчунате пондерисане вредности GRC и израчунате вредности GRG, најближе земљама другог кластера у погледу развијености свих димензија институционалног квалитета и везе са приливом страних директних инвестиција. Стога, резултати истраживања који су приказани у овом раду не само да, применом Grey релационе анализе, доприносе развоју емпиријске литературе о односу између институција и прилива страних директних инвестиција у европским земљама, већ и носе значајне препоруке носиоцима економске политике за предузимање активности у правцу унапређења појединих димензија институционалног квалитета ради подстицања већег прилива страних директних инвестиција.

MSMEs NEED TO CHANGE THE GAME IN CHALLENGING TIMES SUCH AS COVID-19 CRISIS: CHANGES IN CONSUMER BEHAVIOR HABITS

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Abstract

The influence of VUCA (Volatility, Uncertainty, Complexity, Ambiguity) world and COVID-19 pandemic on micro, small and medium enterprises (MSMEs) sector has been significant. The objective of this paper is to analyze the consumer buying behavior during the COVID-19 crisis and its implications on future intentions, so as to propose the potential options for the development of new strategies according to the customers' needs. Changes in consumer habits in the world and in Serbia are reviewed. The online consumer survey was conducted in Serbia April 23-29, 2020. The survey sample included 510 respondents. Quantitative statistical methods were used for analysis: descriptive and comparative statistics (χ^2 test, regression, correlation). The survey data are comparable, in some segments, with the results of the McKinsey & Company survey conducted in 22 countries across the world. The results of empirical research indicate that consumer buying habits have changed in terms of consumption structure and purchasing methods. MSMEs with the strategic marketing orientation, aware of the customers' needs in turbulent environment, are more capable to be innovative and have more chances to be competitive. Doing business in the time of the pandemic has opened new opportunities for business renovation via e-commerce. The contribution of the paper is a set of recommendations for MSMEs on how to gain competitiveness and visibility in the digital market. It is recommended to improve e-commerce in Serbia, based on the research results. They confirm that consumers are increasingly adopting new technologies and that the processes of innovation and digital transformation are in general getting significantly faster, so they represent an opportunity and condition for the work of Serbian MSMEs in the future new normal.

Key words: COVID-19, crisis, consumers, MSMEs, innovation

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ММСП МОРАЈУ ДА ПРОМЕНЕ „ИГРУ” У ИЗАЗОВНИМ ВРЕМЕНИМА КАО ШТО ЈЕ КРИЗА КОВИД-19: ПРОМЕНЕ У НАВИКАМА ПОНАШАЊА ПОТРОШАЧА

Апстракт

Утицај VUCA света (нестабилност, несигурност, комплексност, двосмисленост) и пандемије ковид-19 на сектор микро, малих и средњих предузећа (ММСП) су значајни. Циљ овог рада је анализа понашања потрошача у куповини током кризе COVID-19, као и њихових будућих намера, како би се предложиле потенцијалне опције за нове развојне стратегије које су у складу са потребама потрошача. Разматрају се промене у навикама потрошача у свету, и у Србији. Онлајн анкета потрошача спроведена је у Србији, од 23. до 29. априла 2020. године. Узорак обухвата 510 испитаника. Приликом анализе су коришћене квантитативне статистичке методе: дескриптивна и компаративна статистика (χ^2 тест, т-тест, регресија, корелација). Резултати анкете су, у неким сегментима, упоредиви са резултатима анкете McKinsey & Company, према којој је спроведено истраживање у 22 земље широм света. Резултати емпиријског истраживања указују да су се потрошачке навике промениле у погледу структуре потрошње и метода куповине. ММСП са стратешком маркетиншком оријентацијом, свесни потреба купаца у турбулентном окружењу, способнији су да буду иновативни и имају више шанси да буду конкурентни. Пословање у време пандемије отворило је нове могућности за реновацију пословања путем е-трговине. Допринос рада је скуп препорука за ММСП о начину стицања конкурентности и видљивости на дигиталном тржишту. Препоручује се побољшање е-трговине у Србији, на основу увида у резултате истраживања, која потврђују и да је усвајање нових технологија од стране потрошача убрзано, као и да су процеси иновација и дигиталне трансформације у целини значајно убрзани, па представљају прилику и услов за рад српских ММСП у будућем new normal.

Кључне речи: ковид-19, криза, потрошачи, ММСП, иновације.

INTRODUCTION

In times of crisis, such as the COVID-19 pandemic, companies face serious problems, from the need to change the way of doing business and digitalization, through change of the complete functioning of the business world and the introduction of a contactless economy, all the way to the reduced purchasing power of consumers and broken supply chains. The research subject of this paper is the way of doing business of micro, small and medium enterprises (MSMEs), on the one hand, and consumer behavior, on the other hand, during the pandemic in the world and in Serbia. As doing business of the organization is directly related to consumers, on which the success of the organization depends, these two aspects will be the subject of work, in order to establish the degree of change - innovations, which are necessary in the crisis, and guidelines for MSMEs for rapid adapting to new working conditions. The purpose of this paper is to emphasize the importance of innovation and adaptability

to e-commerce as a response not only to the crisis period, but also to the "new normal". The term "new normal" means a new way of life and work of people.

Crises of any type have become an integral part of business activity and responses to them could make the difference between survival and failure. Taking the COVID-19 pandemic as a starting point, this study aims to investigate how consumers of Serbia coped with COVID-19 at the beginning of this crisis. Based on that, a conceptual framework is proposed, which highlights that MSMEs should flexibly adopt their business towards online marketing processes and practice to satisfy customers' needs.

The contribution of the paper is the research on the level of consumption and intended consumption of certain groups of products and services by consumers in Serbia. It is in some segments harmonized with McKinsey research, which contributes to the comparability of results. Researched customers' buying behaviors during COVID-19 and future e-buying intentions in Serbia present a guideline for a possible area of production to which MSMEs in Serbia can be redirected, while accelerating introduction of innovation and digital transformation.

INFLUENCE OF PANDEMIC ON DOING BUSINESS OF MSMEs

According to the International Labour Organization (ILO, 2020) small and medium size enterprises are the most vulnerable economic group. McKinsey (2020d) researches conducted in the USA and Great Britain confirm this finding. According to World Bank (2020) report SMEs play a major role in most economies, particularly in developing countries. They represent about 90% of businesses and more than 50% of employment worldwide. Formal SMEs contribute up to 40% of national GDP in emerging economies. In Serbia, 56.7% of national GDP came from SMEs in 2017 (Mitrović, Polcyn & Trifunović, 2019: 593). These numbers are significantly higher when informal SMEs are included. MSMEs are also important from the aspect of employment because MSMEs are those who contribute to decrease of the global unemployment. Sustainable MSMEs create more productive employment and decent work than any other enterprise size class. However, these enterprises are extremely vulnerable to external shocks and poor business environments. On the other hand, according to many studies, it is MSMEs that have the opportunity to show their flexibility and resilience in crisis situations.

Agility is as characteristic of MSMEs as much as vulnerability. According to the ILO (2020), as many as 49% of companies have reduced the production of products or services, 29% of them have introduced online marketing, sales and delivery channels, 20% of companies have responded to new demand (for masks, disinfectants, etc.), 12% of

companies increased production in response to higher demand. Nevertheless, 30% of MSMEs diversified their sales channels and about 50% of micro enterprises and 31% of SMEs diversified their products and sales channels.

According to the report of International Trade Centre (2020), it is difficult to foresee how the pandemic and sanitary measures to manage the crisis will evolve over the coming months. In Serbia projected supply chain export loss is the biggest in the following sectors: machinery, plastics and rubber, ferrous metals, mineral products and metal products. Women employment is jeopardized in all sectors.

Affected by problems of logistics blocks, labor shortages, and drops in demand, 80% of Chinese SMEs temporarily closed at the time of the first wave of interviews in February 2020 (Dai et al., 2021). Understanding the challenges of reopening is essential for designing appropriate policies to help SMEs find solutions to the issues that hamper them and navigate through this tough time.

In Serbia, the Serbian Association of Employers conducted a survey in April 2020, which shows that micro and small companies are the most vulnerable to new market opportunities. However, more than 80% of enterprises managed to continue their business by adapting indoors working conditions or through teleworking, and 90% of companies were forced to change their business model in order to respond to the decline in turnover (70% on average), supplier relations and the appropriate employee profile.

There are some studies conducted in Serbia, Pakistan, Ghana, Saudi Arabia, Egypt during early stage of COVID-19 that showed that SMEs have moved their employees to work from home, supply chain disruptions have occurred and SMEs faced insufficient workforce utilization, reduction in business hours, production disruptions, limited access to resources (Behara & Đurićin, 2020; Aduhene & Osei-Assibey, 2021; Aftab, Naveed & Hanif, 2021; Nurunnabi, 2020; Zaazou & Salman Abdou, 2021). In some countries some assistance from government support was given to SMEs like in Malaysia (Mustapa & Mohamad, 2021) and Ghana (Dayour, Adongo, Amuquandoh & Adam, 2020).

CRISIS AND NEW PARADIGM/LOGIC OF MARKET

The crisis requires each individual, but also the company as a whole, to change and adapt to the new situation, to radically change and (re)define the logic/paradigm of doing business by identifying new sources of value and competitive advantage (Vlašić, Gugić, Kesić & Keleminić, 2020: 32). This change also conditions a change in the management logic of the organization and processes. Business models should be harmonized with the new paradigm, which can differ between

industries, but also within the same industry. Thus, it is possible that within the same industry (e.g. entertainment industry) the crisis affects some negatively (e.g. concerts, clubs, cinemas, theaters, etc.), while others are positively affected (e.g. services of streaming films and music, and similar). In general, the crisis is affecting actors who offer products and services related to remote solutions, both for purchasing and consuming products/services. Companies should take into account the growing positive attitude of consumers towards information sharing, which creates an opportunity for new business models and these require functioning through full transparency (Rogers & Cosgrove, 2020).

All indicators so far show that in the coming period and in the VUCA world there will be a turnaround in consumer behavior, with new opportunities for businesses (contactless economy, teleworking, e-commerce and renovated logistics). This inevitably entails the readiness and ability of companies to introduce innovation, open and interdisciplinary cooperation (*Crowdsourcing*) (Von Krogh, Kucukkeles & Ben-Menahem, 2020), as well as to respond quickly to the needs of end users. As a result of one of the ways in which small producers/providers reacted after the introduction of quarantine and closure of physical shops and markets, e-markets have appeared - pages on social networks that connect producers and consumers directly.

The crisis has led to drastic changes in the interaction of organizations with consumers - from the transition to digital teaching, through the licensing of Amazon's *Just Walk Out technology* (Luo & Galasso, 2020), all the way to cultural institutions that have found the means to create, perform and connect with their audiences through online platforms.

INNOVATION AND DIGITAL TRANSFORMATION – THE GOOD SIDE OF THE CRISIS

Innovation, proactivity and risk-taking play an important role in whether SMEs will survive and thrive during period of crisis. The more innovative and proactive the firm is, the less its operations are affected by the recession and the more risk-taking the firm is, the more its profitability is affected by the recession (Soininen, Puumalainen, Sjögrén & Syrja, 2012).

Viewed from a business perspective, innovation is one of the main drivers of growth that fosters competitiveness, opens up horizons and access to market (Mamula Nikolić, Popović Pantić & Muller, 2020). SMEs that are innovation-oriented will more easily overcome such turbulent crises and gain a market advantage (Mamula & Popović-Pantić, 2015: 63). The introduction of innovation in companies is not a simple or easy process, because it requires a change in the way of thinking and

doing business that comes from the ranks of the company, fundamentally changing not only the way of doing business, but also the roles and responsibilities of all employees (Sawhney, Wolcott & Arroniz, 2006: 79). Generally, information and communication technologies (ICT) affect people's lives in many ways. They act as a vector of economic growth and development, but also as a vector of transformation of society as a whole, where ICTs improve access to basic services and have significant potential for improving the quality of life (Nedić, Cvetanović & Despotović, 2018).

As a result of new challenges due to the impact of COVID-19 agile SMEs digitally transformed their business models due to changes in consumers' purchasing behavior. Consumers increased their purchase online as a result of national lockdowns and restrictions on movement (Gregurec, Tomičić Furjan & Tomičić-Pupek, 2021).

Digital transformation is a key enabler of future success or survival, by better connecting digitally with consumers and partners. Given the current increase in the use of digital technologies and services (Crnjanski, 2020), conditions have been created for increase in speed of digital transformation as well.

Adoption of digital sales channels is on the rise (McKinsey & Company, 2020a). Changes in consumer behavior caused by prevention measures and the turn to online shopping are a breeding ground for the accelerated development of e-business (Arora, Christiani, Dreischmeier, Libarikian & Yegoryan – McKinsey Digital, 2020). This means that it is the e-business that companies, especially MSMEs, must introduce through digital platforms (ILO, 2020: 6). The latest EUROSTAT report published in 2020 for 2018, among the EU-28, the percentage of enterprises making e-sales ranging from 11% in Bulgaria and Greece to 39 % in Ireland, followed by Denmark (34%), Sweden (33%), Belgium (31%) and the Czech Republic (30%). The results of the SORS (2019) survey for Serbia show that only 27.5% of companies in 2018 received orders (except for e-mail orders) via the Internet. Bearing in mind that over 70% of households in Serbia have an Internet connection, i.e. that almost 75% of individuals in Serbia use the Internet, it is sufficient enough that we consider e-business as a business model option. The basic question is how to turn an Internet user into an online customer. According to the same report of the SORS survey, during the last 3 months of 2018, 34.2% of Internet users bought or ordered goods via the Internet, which is not different from other European countries in the region, while ahead of most Balkan countries (Statista, 2020).

ANALYSIS OF CONSUMER BEHAVIOR WITH THE APPEARANCE OF COVID-19 IN THE WORLD

According to an online research of UK SMEs (Albonico, Mladenov & Sharma, 2020), more than half of the respondents view the country's economy as very or extremely weak and half of them expect market stagnation or recession. The most negatively affected sectors were the logistics, construction and agriculture and respondents answered that the most endangered industries were tourism, transport, agriculture and industry.

McKinsey researches show that the digital content is more consumed and news are more followed online (Allas, Chinn, Sjatil & Zimmerman, 2020), more people buy online, they more easily opt for new brands and they are focused on domestic products (McKinsey & Company, 2020a). About 40 to 60% of surveyed consumers, who have adopted new digital solutions, intend to continue to apply them (McKinsey & Company, 2020c). When it comes to online shopping in the United States, it has been proven that members of Generation Y and Generation Z, and those with higher incomes, have mostly switched to this type of shopping (McKinsey & Company, 2020b).

This finding points to the need to adopt e-commerce as an integral part of business even after the crisis period has passed (Diebner, Silliman, Ungerman & Vancauwenberghe – McKinsey & Company, 2020: 4). Buyers, especially from the younger generations (Gen Y and Gen Z) are no longer just passive consumers of what is offered - they often buy from those companies that have proven to be socially responsible (64%), (Diebner et al., 2020). The same elements to which attention is today paid when attracting young talents through creating an employer's brand (Mamula Nikolić & Nećak, 2019) also influence the formation of customers' attitudes towards shopping, so focusing on the customer experience is a strategy to be adopted in a recession period (Diebner et al., 2020).

A new trend that has emerged recently (and our research confirms that the measures proposed by the respondents are related to encouraging local production and agriculture) shows consumer preferences for shops, restaurants and brands that are local in nature. They are more interested in the value they get from the purchase, than in the price itself, then in the origin, as well as in the benefits they get from a product (Andjelić, 2020).

As the pandemic crisis continues, consumer behavior is changing. According to McKinsey researches (2020), the following trends in consumer sentiment and behavior are observed globally: 1) majority still expect the long-term impact of COVID-19 on net optimism which is reduced; 2) reduced purchasing power leads only to the purchase of basic and exclusion of discretionary categories, with the exception of South Korea and China; 3) Consumers switch to digital solutions, in order to

receive goods and services; 4) most consumers still feel the pull towards the "homebody economy".

Based on relevant research conducted before (Perčić, Perić & Kutlača, 2019) and during the pandemic (McKinsey & Company, 2020), the following hypotheses were defined:

Hypothesis H₁: It is assumed that consumers in Serbia have changed their shopping behavior, in terms of switching to digital ordering solutions (contactless economy) and the types of products/services that are more frequently purchased during the pandemic.

Hypothesis H₂: It is assumed that there will be an increase in purchases via Internet by consumers after the pandemic, i.e. that consumers in Serbia will adopt new shopping habits.

Hypothesis H₃: It is assumed that there is a statistically significant difference in the responses of respondents of different age categories concerning planned online ordering after pandemic.

METHODOLOGY OF EMPIRICAL RESEARCH

To get a better insight into the consumer behavior during the first wave of pandemic crisis and future buying intentions, the survey was conducted in the Republic of Serbia. Empirical, quantitative, research was conducted using the method of questioning, during the period April 23-29, 2020. SPSS software was used for data processing and interpretation of the obtained results, and quantitative statistical methods were used for analysis: descriptive statistics - frequency distribution and comparative statistics (χ^2 test, regression, correlation). Some of the questions in the questionnaire referred to the five-point Likert scale of answers.

The sample is random. It included 510 respondents, and it is harmonized with online sample population. The used online questionnaire was prepared for the needs of this research. The questionnaires were distributed via social media and via email. The sample is representative for the online population in Serbia (sample error is 4.3%), and it turned out that women were more open to fill in the online survey (as it is recorded in many others online surveys – Genovese, 2020). There is no equal distribution over genders which can show significant statistical differences in respect to the respondents' gender. The data from this survey are partly comparable with survey done by McKinsey in 22 countries around the world.

*RESEARCH RESULTS AND ANALYSIS OF CONSUMERS
BEHAVIOR UPON COVID-19 OUTBREAK
IN THE REPUBLIC OF SERBIA*

The structure of respondents is made of:

- 29% male respondents and 71% female respondents;
- 8% respondents of age 18-25, 41% of respondents of age 25-40, 31% of respondents of age 40-50, 18% of respondents of age 50-65 and 2% of respondents of over 65;
- 61% of respondents from the territory of the city of Belgrade, and 39% of respondents from other cities in Serbia (12% from Vojvodina, 12% from Šumadija and Western Serbia and 15% from Eastern and Southern Serbia);
- 2% of respondents have completed primary education, 22% completed secondary education, 12% higher education, 49% high education and 15% of respondents has university degrees.

When analyzing the degree of concern of the respondents, it is noticeable that the biggest concern is about financial stability (Mean = 3.67), followed by the concern about the negative impact of the crisis on the level of salary (Mean = 3.61). It is noticeable that the lowest degree of concern about the uncertainty of the economic situation that prevents them from spending money normally, i.e. maintaining their lifestyle. The level of concern of the respondents about the availability of food/medicines is 3.17.

Table 1. Distribution of respondents according to the degree of impact of the pandemic on income, consumption and savings

Impact of pandemic on:	Big impact (5)	Impact, but not too big (4)	Not sure (3)	Little impact (2)	No impact (1)	Mean
...household income	25%	25%	7%	20%	23%	3.10
...household consumption	25%	33%	6%	25%	11%	3.37
...household savings	27%	27%	13%	19%	14%	3.33

Resource: Results of the empirical research conducted by the authors of the paper

Based on the percentages in Table 1, it can be seen that, according to the respondents in Serbia, the crisis has had a pretty big impact on income, and indirectly on consumption and household savings. It is considered to have a more negative impact on consumption and savings than on income.

In the coming period, 24% of respondents are afraid of the possibility of losing their job. The results of the empirical research show that 52% of the respondents are satisfied with the current income in the household, and 48% of them stated that they are not satisfied with the amount of income. There is a statistically significant difference in the

respondents' answers according to the level of education - the higher the level of education, the more satisfied the respondents are with household income (Pearson Chi-Square test, $p = 0.00 < 0.05$).

Respondents in Serbia believe that in the next four weeks from the moment of filling in the questionnaire (April 2020) there will be an increase in purchase of:

- food and non-alcoholic beverages (according to the forecast of 29% of respondents;
 - household chemicals (25%);
 - products for personal hygiene and facial care (18%);
- reduction in purchase of:
- clothing and footwear (51%);
 - fuels (40%);
 - personal care services (39%);
 - technical devices and accessories for technical devices (34%);
 - fast food and food delivery (24%).

Table 2. Distribution of respondents according to the use of certain services since the beginning of the pandemic

Usage of:	I started to use since the beginning of pandemic	I have used it before	I don't use
...paying household bills online	6%	70%	24%
...ordering groceries delivery	8%	23%	69%
...ordering fast food delivery	4%	43%	53%
...delivery of perishable food from small and individual producers (salad, seasonal fruits and vegetables, cheese, etc.)	13%	5%	82%

Resource: Results of the empirical research conducted by the authors of the paper

Based on Table 2, it can be seen that the respondents in Serbia in the largest percentage (13% of them) began to use the services of delivery of perishable food from small and individual producers. Then, 8% of respondents started ordering groceries delivery, 6% started paying bills online, and only 4% ordered fast food delivery. The largest percentage of respondents (as many as 70%) paid their bills online even before the pandemic.

As many as 75% of respondents in Serbia believe that the acquired habits will remain after the crisis, and 30% believe that the share of e-commerce/online ordering of products in their consumption will increase after the pandemic. It was found that there is no statistically significant difference in the responses according to demographic characteristics in relation to the increased percentage of online orders since the beginning of the crisis caused by the COVID-19 virus.

Table 3. Testing regression – influence of age categories of respondents (as independent variable) on dependent variables

Questions from questionnaire (dependent variables)	p	R ²	Beta coefficient
COVID-19 worries me considering possibilities for future travel.	0.863	0.000	-0.008
COVID-19 worries me considering negative effect on my salary.	0.015*	0.012	0.108
COVID-19 worries me considering access to groceries and medicines.	0.658	0.000	-0.020
I am worried by negative effect of COVID-19 on my financial stability.	0.242	0.003	0.052
I am worried because my job is less secure	0.094	0.006	0.074
I am worried about the uncertain economic situation and it prevents me from spending money as usual.	0.404	0.001	0.037
How much did the pandemic affect the income in your household?	0.963	0.000	0.002
How much did the pandemic affect consumption in your household??	0.823	0.000	0.010
How much did the pandemic affect the savings in your household?	0.174	0.004	-0.060

Resource: Results of the empirical research conducted by the authors of the paper

**An asterisk (*) indicates where the regression is taken into consideration (where $p < 0.05$).*

Statistical analysis showed that there is no statistically significant correlation between the level of education of respondents and the examined dependent variables regarding the degree of concern and the degree of impact of the crisis. Also, there is no statistically significant correlation between age categories of respondents and the most of examined dependent variables regarding the degree of concern and degree of impact of crisis (Table 3). Regression and correlation were found between certain variables, but due to the weak influence and weak strength of the examined connections, it was concluded that the connections were negligible. It was found that there is an influence of age categories of respondents on the degree of concern about the negative impact of the pandemic on salaries (regression, $R^2 = 0.012$, $p = 0.015 < 0.05$; but only 1.2% of variability depending on the variable, i.e. the degree of concern about negative impact of the pandemic on the level of salary explains the impact of age categories of respondents). There is also the correlation between variables, i.e. age categories of respondents and the degree of the mentioned concern (Pearson Correlation = 0.108, $p = 0.015 < 0.05$, for confidence interval 95% and for risk of error 5%), where the correlation is positive and weak, which is a negligible connection between these two variables.

DISCUSSION

Based on the presented results obtained by empirical research, hypothesis H_1 has been confirmed – a change in shopping behavior is noticeable among consumers in Serbia, i.e. the transition to digital solutions for product ordering, and in the types of products that are purchased more frequently since the beginning of the pandemic.

Hypothesis H_2 has been confirmed – empirical research has proven that the intention of 30% of consumers is to increase online shopping after a pandemic.

Considering that the research of Perčić et al. (2019: 70) proved that the younger population in Serbia orders more often via Internet, it is assumed that there is a statistically significant difference in the responses of respondents of different age categories concerning planned online ordering after the pandemic. Hypothesis H_3 was refuted – it was found that there is no statistically significant difference in the responses either according to age groups, or according to other demographic characteristics in relation to the increased percentage of online ordering since the beginning of the pandemic. In other words, there is no specific target group of consumers who intend to increase the share of e-commerce, and to whom the digital transformation could be specifically directed if the result was different. This may lead to the conclusion that the possibility of equal access to different target groups is being opened up for MSMEs in Serbia, but that does not mean that the situation will not change in few months. It should certainly be kept in mind that the online questionnaire was filled out by digitally literate respondents, and that the results could be different if the sample was representative for the entire population in Serbia, not only for those who are online. This represents a limitation of this work, but also the direction in which some further research could be directed.

According to the results of McKinsey (2020), the intention to buy more online has been established in the USA, Italy, India, South Korea, and Japan, while in Europe and Latin America there is less intention to buy more online. Consumers in Germany prefer traditional forms of shopping. Overall online penetration in China increased by 15-20%, and in Italy, e-commerce sales for consumer products increased by 81% in a single week. According to a survey in Serbia, 30% of respondents believe that the share of e-commerce products in their consumption will increase after the pandemic.

According to McKinsey research, spending on groceries and entertainment at home continues to show a positive trend. Consumers in most countries intend to increase the consumption of other basic categories, such as household goods and personal care, while in Serbia, consumers mostly increase the consumption of food and non-alcoholic beverages and household chemicals.

“The number of consumers in Serbia who are willing to order/buy via the Internet is increasing,” (Perčić et al., 2019, p. 69), and on the other hand, “organizations are more often promoted via the Internet media, but e-commerce is still underdeveloped in Serbia,” (Perčić et al., 2019: 69). Often, managers in these companies do not see the importance of selling via the Internet (MASMI, 2016). MSMEs in Serbia were unprepared for the new challenge caused by the crisis, and given the current circumstances of the situation and according to the results of the survey (30% intend to continue shopping online), the condition for the organization to survive and experience a long-life cycle is the speed of adaptation to new normal. The old way of doing business no longer exists – there is no possibility of returning to a well-established way of working, but it is necessary to define and implement new strategies with the help of which it will be possible to maintain positive work results.

CONCLUSION

According to the report of OECD (2020), the main message is that now is the time to intensify efforts to address mentioned challenges. The crisis unleashed by COVID-19 is affecting every aspect of our lives, from health, jobs and education, to financial security, social relations and trust. If we could look at the bigger picture, in times of crisis MSMEs should start by identifying the impact of the crisis on business, with taking over the control, then it is necessary to identify emerging opportunities, compile a plan to restructure/relaunch and new business plan which includes adoption of new technology in business model, to diversify, adjust marketing strategy and new media plan. It is necessary to renew operations and supply chain, and invest in being adaptive. Additionally, since new generation of consumers (Generation Y and Generation Z) are socially and environmentally responsible more than previous generations, SMEs should intensify their responsibilities towards people and planet, because, otherwise, the biggest consumer population will react by not buying the products (Mamula Nikolić, 2021).

The proposed steps for rapid innovation initiatives can be summarized in five principles (Von Krogh et al., 2020): 1) understand the problem to be solved by innovation, 2) map the resources, 3) use the connected technologies, 4) encourage the collaboration and 5) integrate the end users. This implies a new way of thinking that includes continuous monitoring and implementation of market research (needs, desires, preferences and purchasing power of the target group, technology development, analysis of supply and trends). It is of the utmost importance to build customer relationships (Customer Relationship Management) where the key to success is to build trust of customers, but also of employees.

It is necessary to adjust the movement of business towards sectors that are more attractive to consumers, with an emphasis on creativity and a designer's mindset that is geared towards the needs of users. Developing cognitive skills is essential to provide employees relevant to redesigning and innovations. Social and emotional skills are necessary to ensure effective cooperation, empathic attitude towards consumers and the community, regardless of which brand is in question and which industry it belongs to. Reckless moves, equally as lack of reaction, in such times carry a great risk of labeling the brand as someone who thinks only of profit. Speed and discipline are most important for achieving elasticity. And uncertainty and constant changes require exceptional change management skills that include expressing empathy and gratitude, encouraging belonging and inclusion, but also thinking about short-term moves without forgetting the long-term vision.

Due to the closure of state borders and constant uncertainty, the priority is to rely on local business, i.e. doing business localization (Vlašić et al., 2020: 14).

Due to the health crisis, the economic crisis is inevitable, so the trends regarding savings and reduction of consumption are evident in the world, and in Serbia, to a significant extent. Serbia relatively lagged behind in the process of digitalization of its economy, but the crisis caused by the pandemic started i.e. accelerated this process, which overnight became a "conditio sine qua non". For some of the MSMEs, offering products and services online, along with a good plan and digital marketing strategy, may be the optimal solution.

Considering that access to technology and the Internet is having a positive impact at all levels – personal, family, professional and social (Ruiz, García, & Rosell, 2014), it can be confirmed that the innovation for which Drucker believed that “Schumpeter insisted on “innovation”, (that is entrepreneurship that moves resources from old and obsolescence to new and more productive employments), is actually the very essence of economics and most certainly of a modern economy” (Drucker, 1985). Without crisis and innovation there is no progress, confirmed the New Schumpeterians Howitt¹ and Aghion², winners of the 2019 Frontier of Knowledge Award.

¹ Peter Howitt, Professor Emeritus of Economics at Brown University (United States), Lyn Crost Professor Emeritus of Social Sciences, winner of the 2019 Frontier of Knowledge Award https://www.eurekalert.org/pub_releases/2020-03/bf-paa031820.php

² Philippe Aghion, the Chair in the Economics of Institutions, Innovation and Growth, Centennial Professor of Economics at the London School of Economics, winner of the 2019 Frontier of Knowledge Award https://www.eurekalert.org/pub_releases/2020-03/bf-paa031820.php

The reached results confirm that the adoption of new technologies by consumers has been accelerated, and that the processes of innovation and digital transformation have significantly accelerated in general, so they represent an opportunity and condition for the operation of Serbian MSMEs in the future new normal. MSMEs that do not respond to changes in the market have little or no chance of surviving in a turbulent market, compared to those MSMEs that (quickly) adapt to new circumstances, especially in VUCA times. In other words, as innovation/business renovation and digitalization, with the appearance of the pandemic, are the condition for the survival of MSMEs, those MSMEs that are inert, in the status quo, have no future in Serbia either.

The limitation of the work is that the sample is not representative by the regions of Serbia. A certain percentage of respondents from all regions of Serbia were included, but these percentages are not proportional to the actual structure of the number of people by regions. Also, as already mentioned, there is no equal distribution over genders which can show significant statistical differences in respect to the respondents' gender. Taking into account these limitations and in order to overcome them, the directions of future research may be paid online research, in combination with the distribution of printed questionnaires.

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ММСП МОРАЈУ ДА ПРОМЕНЕ „ИГРУ” У ИЗАЗОВНИМ ВРЕМЕНИМА КАО ШТО ЈЕ КРИЗА КОВИД-19: ПРОМЕНЕ У НАВИКАМА ПОНАШАЊА ПОТРОШАЧА

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Резиме

У раду се анализира утицај пандемије, која је проузрокована вирусом ковид-19, како на понашање потрошача, тако и на сектор микро, малих и средњих предузећа (ММСП). Циљ овог рада је анализа куповних навика потрошача током кризе, као и њихових будућих намера у потрошњи, а с коначним циљем предлагања потенцијалних опција за нове развојне стратегије које су у складу са потребама потрошача. Разматрају се промене у навикама потрошача у свету, на основу резултата десктоп истраживања, и потрошача у Србији, на основу спроведеног емпиријског истраживања, у коме је учествовало 510 испитаника. Анкета потрошача је спроведена онлајн, на територији Републике Србије, од 23. до 29. априла 2020. године. Приликом обраде и анализе података коришћене су квантитативне статистичке методе: дескриптивна и компаративна статистика (χ^2 тест, т-тест, регресија и корелација). Резултати анкете су, у неким сегментима, упоредиви са резултатима анкете McKinsey & Company, према којој је спроведено истраживање у 22 земље широм света по почетку пандемије.

Резултати емпиријског истраживања показују да су се потрошачке навике промениле у погледу структуре потрошње и метода куповине. Код потрошача у Србији је приметна промена понашања у куповини, тј. прелазак на дигитална решења поручивања производа, и врста производа који се учесталије купују од почетка пандемије. Емпиријско истраживање је доказало да је намера 30% потрошача да повећа куповину путем интернета након пандемије. Није доказано постојање статистички значајне разлике у одговорима испитаника различитих старосних категорија испитаника у погледу планираног поручивања путем интернета након пандемије.

У Србији, криза има прилично велик утицај на приходе, и индиректно на потрошњу и штедњу, при чему има већи негативан утицај на потрошњу и штедњу него на приходе. Скоро четвртина испитаника у Србији (24%) плаши се могућности останка без посла у наредном периоду, и 48% испитаника се изјаснило да није задовољно висина својих примања. Испитаници верују да ће се повећати куповина хране и безалкохолних напитака, средстава за дезинфекцију и средстава за личну хигијену, а да ће се смањити куповина одеће, обуће, горива, услуга за личну негу, техничких уређаја и опреме, брзе хране. Чак 75% испитаника верује да ће стечене навике током пандемије да се задрже и после кризе.

ММСП у Србији су неспремно дочекала нове изазове проузроковане кризом ковид-19, и с обзиром на тренутне околности развоја ситуације и према резултатима истраживања (30% потрошача намерава да настави куповину онлајн), услов да организација опстане и доживи дуг животни циклус јесте брзина адаптације на new normal. Стари начин пословања више не постоји – не постоји могућност враћања на уходан начин рада, већ је неопходно дефинисати и спроводити нове стратегије уз помоћ којих ће бити могуће одржавати позитивне резултате рада.

Због затварања државних граница и сталне неизвесности приоритет је ослањање на локални бизнис, тј. локализацију пословања. Учењем из наметнуте потребе за експериментисањем и улагањем у технологије за смањење ризика, организације могу постати паметније и флексибилније, и мењајући свој пословни модел у што краћем року, могу се боље репозиционирати.

ММСП са стратешком маркетиншком оријентацијом, свесни потреба купаца у турбулентном окружењу, способнији су да буду иновативни и имају више шанси да опстану и буду успешни. Пословање у време пандемије отворило је нове могућности за реновацију пословања путем е-трговине. Препоручује се побољшање е-трговине у Србији, на основу увида у резултате истраживања, путем којих се потврђује и да је усвајање нових технологија од стране потрошача убрзано. Процеси иновација и дигиталне трансформације су у целини значајно убрзани, и представљају услов за рад и прилику ММСП у Србији, у будућем *new normal*.

CAN IFRS IMPROVE THE QUALITY OF FINANCIAL REPORTING IN SUDAN?

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Abstract

As a set of globally accepted financial reporting rules, IFRSs are primarily intended for economically developed countries with adequate legislation, developed capital markets and quality financial reporting practices. Developing countries are motivated to use IFRS to improve the quality and reliability of the financial reporting procedures in order to attract foreign investments, enable unhindered international financial flows and stimulate economic growth. The key problem in this regard is the inconsistency of their local economic, legal and social infrastructure with the requirements of the successful implementation of IFRS, which requires numerous preparations and adjustments. The purpose of this paper is to consider the possibilities and preconditions for the application of IFRS in Sudan, as a country with an underdeveloped economy, inadequate legislation, weak accounting profession and numerous cultural specificities. The key question that arose during the survey of academics' perceptions on this topic was not whether Sudan should apply IFRS, but whether it is currently possible to apply IFRS in this country at all, given the numerous difficulties preventing that. Therefore, this process should be approached very carefully, with the necessary thorough preparation of the local economic and legal environment and with constant analysis of the costs and benefits of such an endeavor. The potential benefits of applying IFRS in Sudan are undeniable, but it is important that they outweigh the required high initial investment and possible negative effects from possible inadequate implementation.

Key words: developing countries, IFRS, harmonization, financial reporting, Sudan, adoption determinants, environmental factors

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ДА ЛИ МСФИ МОГУ ДА ПОБОЉШАЈУ КВАЛИТЕТ ФИНАНСИЈСКОГ ИЗВЕШТАВАЊА У СУДАНУ?

Апстракт

Као скуп глобално прихваћених правила финансијског извештавања, МСФИ су првенствено намењени економски развијеним земљама са одговарајућим законодавством, развијеним тржиштима капитала и квалитетном праксом финансијског извештавања. Земље у развоју мотивисане су да користе МСФИ за побољшање квалитета и поузданости поступака финансијског извештавања у циљу привлачења страних инвестиција, омогућавања несметаних међународних финансијских токова и подстицања економског раста. Кључни проблем у овом погледу је неусклађеност њихове локалне економске, правне и социјалне инфраструктуре са захтевима успешне примене МСФИ, што захтева бројне припреме и прилагођавања. Сврха овог рада је да размотри могућности и предуслове за примену МСФИ у Судану, као земљи са неразвијеном економијом, неадекватним законодавством, слабом рачуноводственом професијом и бројним културним специфичностима. Кључно питање које се појавило током истраживања перцепција академске јавности о овој теми није било да ли Судан треба да примењује МСФИ, већ да ли је тренутно могуће уопште применити МСФИ у овој земљи, с обзиром на бројне потешкоће које то спречавају. Стога овом процесу треба приступити врло пажљиво, уз неопходну темељну припрему локалног економског и правног окружења и уз сталну анализу трошкова и користи таквог подухвата. Потенцијалне користи од примене МСФИ у Судану су неоспорне, али је важно да оне надмашују потребна висока почетна улагања и могуће негативне ефекте од могуће неадекватне примене.

Кључне речи: земље у развоју, МСФИ, хармонизација, финансијско извештавање, Судан, детерминанте усвајања, фактори окружења.

INTRODUCTION

The globalization of the economy and capital markets, accompanied by an increase in international trade, foreign direct investment and the number of multinational companies (as the bearers of this process) requires the creation of a common language of financial reporting. Harmonization of accounting procedures in the international framework should enable the creation of quality, transparent and comparable financial statements in order to improve communication with investors, reduce financial investment risks and facilitate the operation of multinational companies in different countries. Also, providing reliable information to investors and their better institutional protection leads to a reduction in costs of capital, increased cross border investments, more efficient functioning of the capital market and accelerated economic growth.

As a set of globally accepted financial reporting rules, IFRS are the main tool for achieving above mentioned goals. That is why IFRS are primarily intended for developed countries, with an environment of adequate legislation, good investor protection, developed capital markets,

quality financial reporting and efficient enforcement mechanisms. On the other hand, the application of IFRS in developing countries is most often associated with a number of problems due to inadequate and underdeveloped local infrastructure. In addition, developing countries differ greatly in terms of the local economic, political, legal and cultural conditions within which the financial reporting process takes place. Therefore, the uncritical application of uniform accounting rules in these various countries, without taking into account their local specifics and with ignoring the need to make the necessary infrastructure adaptations inevitably leads to a number of problems and failures in practice. The most common obstacles to the application of IFRS in developing countries are related to poor legislation, underdeveloped accounting profession and the fact that in most of these countries the primary users of financial statements are not investors, but creditors or government bodies. In such conditions, there are specific objectives of financial reporting, so the question arises as to the justification of accepting the new accounting rules, such as IFRS, intended for a completely different environment and users.

Sudan is the country that has not yet decided to implement the IFRS, probably because it previously requires a radical reform of the local legal and economic environment, as well as the improvement of the quality of the functioning of the accounting profession. It is important to emphasize that such reforms need to be carefully designed because it is not easy to make a rapid transformation towards the infrastructure that has been gradually developed in Western countries over decades. In case of successful realization of this process, it should make it possible to overcome the problems associated with the culture of secrecy, inadequate regulation and limited accountability, which is an obstacle to the application of IFRS. Despite all the aggravating circumstances, increasing the transparency, quality and level of disclosure of information in the financial statements is an objective that should certainly be pursued in Sudan, as it should enable the attraction of foreign direct investment and easier connection with foreign capital markets. The purpose of this paper is to consider the possibilities for the adoption of IFRS in Sudan from the point of view of academics, with special reference to the difficulties that prevent this process, as well as the benefits that the eventual successful implementation of IFRS would bring to this country.

FACTORS AFFECTING THE ADOPTION OF IFRS IN DEVELOPING COUNTRIES

IFRS represents a set of globally accepted accounting rules created by the IASB, as an independent accounting body. These standards have served as a means to harmonize financial reporting practices in the context of globalization of business and capital markets. Therefore, they are

primarily intended for large companies that are listed on stock exchanges. Long-term practice and numerous studies show that IFRS have led to improved quality, reliability, comparability and transparency of financial statements. These benefits are most pronounced in economically developed countries, with developed capital markets, good legislation and investor protection, an independent accounting profession and a long tradition of quality financial reporting.

On the other hand, the fact that IFRS are applied in over 140 countries around the world, including a huge number of developing countries, leads to the conclusion that IFRS offer the possibility of improving the quality of accounting in these countries as well. This is confirmed by the positive experiences of many developing countries, despite the fact that IFRS are primarily intended for the environment that prevails in developed economies and that their adoption in developing countries is often associated with numerous difficulties and problems.

It must be emphasized that developing countries are not a homogeneous group and that they differ greatly in terms of their economic development and state of accounting profession. Some researchers recognized the next four types of developing countries in terms of their economic development: rapidly industrializing countries with a bright future; countries rich in natural resources, with colonial legacy and difficulties in governance; former communist countries that are industrialized; poor and undeveloped countries with few resources (Chand, 2006). Consequently, each of these four groups of developing countries will initially have specific determinants for the application of IFRS. Bearing in mind these great differences, Zehri and Chouaibi (2013) state that the developing countries with high level of economic growth, legal systems based on common law, advanced educational level and efficient capital markets are the most favorable to the adoption of IFRS.

Other developing countries that intend to reach such a level of economic development inevitably opt for the application of IFRS in order to improve the quality of financial reporting and attract foreign investors, but during that process they face numerous challenges and almost invincible obstacles. Namely, the decision to apply IFRS in the context of globalization of the world economy is often motivated not only by the reasonable need of individual countries to harmonize their financial reporting procedures with international practices, but also by pressures from international institutions, such as IMF, WTO or World Bank, which set the application of IFRS as a precondition for access to necessary funding sources. Such a forced introduction of IFRS in countries with inadequate legal systems, underdeveloped professional infrastructure, weak capital markets, the lack of investors as dominant users of financial statements, non-democratic history and the culture of secrecy and frauds results in a number of specific problems (Irvine & Lucas, 2006).

Therefore, the first problem that arises in this field is of an essential nature, because the application of standards, intended for developed countries, in developing countries with inadequate legislative and weak accounting profession at the very beginning creates a number of challenges. Developing countries have a specific social environment, culture, mentality and local legislation, so in practice there are often negative consequences of attempting to impose the IFRS without taking these factors of the local environment seriously. Therefore, the ability of many developing countries to make the radical transition toward creating an environment of transparency, good regulation and effective enforcement mechanisms, which is essential for the successful implementation of IFRS, is increasingly being questioned.

In this sense, the initial dilemma is whether it is possible at all to successfully implement IFRS in a specific economic, legal, political and cultural environment that is not prepared or adequate for such a serious change. In other words, the question arises of the rationale of the rapid introduction of IFRS in countries where local infrastructure is so underdeveloped that the benefits of IFRS cannot exceed the harmful effects of their poor and unsuccessful introduction. In each country, accounting operates in a specific local context, which has special requirements and dominant users of financial statements, so any significant change requires great effort and environmental adjustments. Therefore, it could be said that the decision to accept IFRS is only the first and easier step in relation to their further implementation and acceptance of their content in practice.

Thus, starting from the understanding that the practice of financial reporting in a country is determined by cultural patterns of behavior, local value system and specific economic, legal and social conditions, the degree of success of the introduction of IFRS will depend primarily on the success in modifying these local environmental factors, which is a very demanding process. As a result, a number of developing countries, such as Bangladesh, Pakistan, Kuwait, Fiji or Papua New Guinea, have experienced major failures in implementing IFRS. On the other hand, in a small number of rich developing countries, such as the UAE, the problem of weak financial reporting tradition, incompetence of local accountants and inadequate regulation was solved by importing foreign experts, attracting leading international accounting firms and introducing new technologies, which greatly facilitated the application of IFRS in this country in the middle of the previous decade (Irvine & Lucas, 2006).

Problems in transposing IFRS to developing countries also occur in the field of: translating the content of IFRS into other languages (in which there is no equivalent terminology), political readiness of national governments to effectively modify legislation, efficiency in adapting local tax and other regulations to the requirements of IFRS, the realization of required education of accountants, building the necessary infrastructure to

implement IFRS, etc. Among the most important factors for the introduction of IFRS is the level of education and professional development of local accountants, because the implementation of complex and ever changing standards will undoubtedly be facilitated by high level of training, competent accountants and quality teaching staff. Therefore, the lack of experienced and qualified accountants is probably one of the most serious obstacles to the application of IFRS in most developing countries.

In one of the few studies that focused exclusively on the factors influencing the adoption of IFRS in African countries, it was found that countries with faster economic growth are more likely to apply IFRS, because in such circumstances the size and complexity of business transactions require more confident financial reporting rules. Another important factor is the degree of cultural connection with the UK, so the countries influenced by British colonial heritage are more willing to apply IFRS. The third important factor that increases the likelihood that an African country will apply IFRS is the size of the capital market (market capitalization), given that quality and reliable financial statements are in the function of protecting investors, as their dominant users in such conditions. The larger the capital market, the more likely a country is to apply IFRS. Perhaps this is the main reason for the lower adoption rate of IFRS in African countries, which in a large number of cases do not have stock exchange or, if it exists, there is a very few listed companies (Stainbank, 2014). Results of Stainbank's research are very reminiscent of the conclusions reached by the aforementioned Zehri and Chouaibi.

In that sense, in 22 African countries IFRS have been already used (in 18 countries IFRS are required for all and in 4 countries are required for some companies), but it is still less than the half of the total number of countries on that continent (54 countries). It is noticeable that the adoption rate of IFRS in Africa is significantly lower than the world average (40% vs 65%). The reasons for this vary from country to country, but the main reason seems to lie in the underdeveloped economic environment and weak accounting profession in most countries. African countries with positive experience in the application of IFRS are larger economies, with developed capital markets, such as Nigeria, South Africa, Ghana and Tanzania (Tawiah, 2019).

THE CURRENT STATE OF FINANCIAL REPORTING IN SUDAN

Based on the fact that the functioning of accounting in a country is primarily determined by the effects of a number of specific factors of the local environment, we can conclude that these factors cause the main differences between accounting systems from country to country (Nobes & Parker, 2012). In other words, accounting practices in each country are conditioned by the effect of different specific factors, so what is a signifi-

cant factor in one country may be of secondary importance in another. In addition to these internal environmental factors that are related to specific legal, economic and cultural conditions, external environmental factors can also have a significant impact on financial reporting in developing countries. For example, the existing accounting systems in these countries are often “largely extensions of those developed in other countries” (Abouagla & Sekerez, 2017: 63), like in UK and USA, and they were either imposed through colonial influence or by multinational companies. In support of this, Nobes (1998: 33) said that “accounting in developing countries tend to follow colonial or cultural influence rather than purpose of context.” Thus, such circumstances prevent these countries from developing accounting systems which would truly reflect the specific informational needs of local users.

Similarly, the practice of financial reporting in Sudan has not been successfully tailored to the needs of local users, because it has been uncritically taken over from the UK, as a former colonizer, where accounting operates in a completely different environment and with different objectives. Unlike the United Kingdom, Sudan does not have investors as primary users of financial statements nor have a developed capital market (the stock exchange in Khartoum has few listed companies and a small number of transactions). As a result, companies are mainly financed through bank loans, which put the banks at the forefront as one of the main users of financial statements. In this regard, the most significant users of financial statements in Sudan are the tax authorities, which is similar to the situation in other developing countries. In the absence of strong and developed accounting profession, tax authorities seek to formulate rules and standardize accounting practices in the country, in order to facilitate the calculation and collection of taxes.

Another factor that was not taken into account when uncritically “copying” the British model of financial reporting concerns the fact that, unlike the UK which is the “cradle of accounting,” in Sudan the accounting profession is very underdeveloped and there is an insufficient number of competent accountants in practice. The reason for that should be sought in the dominant role of the government in terms of accounting and the inadequate system of education and professional training of accountants. As a result, SAAPOC (The Sudan Accounting and Auditing Profession Organization Council) has not yet met the prerequisites for membership in international organizations, such as IFAC. Also, Sudan belongs to the group of African countries that have not yet decided to apply the IFRS, which is completely understandable in such circumstances. Thus, it could be said that the functioning of accounting in Sudan was set on the completely “wrong track” at the very beginning, as a result of which it became incompatible with the requirements of the local environment.

The practice of financial reporting in Sudan is largely regulated by the Company Act from 1925, which has not been amended even after gaining independence from UK. In addition to reflecting the requirements adapted to the advanced model of financial reporting in the UK, this law has become very outdated and inadequate, so it is completely incapable of satisfying the information requirements of users in an environment that has been changing intensively for almost a hundred years. Such inappropriate legislation has undoubtedly greatly slowed down the development of the accounting profession in Sudan. There is no single body in this country that deals with the regulation of financial reporting, so it is organized and directed by the activities of different bodies and groups, such as Central Bank, Taxation Chamber, Zakat Chamber, SAAPOC, auditors, academicians, etc. (Abouagla, 2017). It should also be emphasized that the professional accounting regulations for the banking and insurance sectors are Islamic accounting standards, which we will discuss in more detail later.

In support of the claim that the accounting information in Sudan is not appropriate to the information requirements of users, there is a study which found that local financial statements are subject to numerous adjustments made by users, in order to overcome their weaknesses and shortcomings. Considering that users do not trust the presented accounting information and suffer the consequences due to their untimeliness, unreliability and non-transparency, adjustments to items in the financial statements are made to better reflect economic reality, to increase the relevance of information to users and to avoid misinterpretation of the real financial performance of companies (Saadaby et al, 2019). Among the key shortcomings of financial reports in Sudan, the authors highlight: poor arrangement of the statements' items; difficulty of reading and understanding the contents; difficulty of obtaining financial statements themselves and delay in their publishing; financial reports contains irrelevant, wrong and misleading information and, the most important, financial reports are unable to disclose adequately all the important aspects of business necessary for decision-making. The problem of inadequate disclosure of information is solved by users through various activities of adjusting the financial statements related to adding back, removing, recalculating, reclassifying items and changing the format and ways of disclosure. In this regard, one of the biggest financial reporting problems in Sudan seems to be related to time lag between the end of the financial year and the release of financial statements, which results in delay of communicating the information to the users.

It is also important to emphasize that the nature of business ownership in Sudan is such that family-dominated companies predominate, which reduces the need for transparency and wider disclosure of information. Previous considerations of the current state of financial reporting in Sudan are sublimated in the work of Abouagla & Sekerez (2017),

where it is pointed out that in addition to colonial inherence and accounting education, key factors affecting accounting practice in this country are cultural values and legal, political and economic systems. The authors emphasize that, as a result of the simultaneous influence of the aforementioned factors, the main reasons for unsuitability of accounting information to the local users in Sudan are:

- Accounting system is the reflection of the British financial reporting;
- Accounting education system is weak and inadequate;
- Government dominates over the accounting professional bodies;
- Incompleteness and shortcomings of legislation in the field of financial reporting.

All of the above poses serious obstacles to the further development of the accounting profession in Sudan, which is currently disorganized, underdeveloped, weak and without the potential to take on a role in improving the current situation. As a result, accounting information is largely unsuitable for local information needs, so accounting in Sudan has a long way to go in order to approach international best accounting practice.

DIFFICULTIES PREVENTING THE ADOPTION OF IFRS IN SUDAN

As previously noted, Sudan is a country with inadequate accounting regulations, an underdeveloped accounting profession, a weak capital market and tax authorities, as the primary users of financial reports. In such an environment, the potential application of IFRS would face a number of barriers and problems, so this may be the key reason why Sudan has not yet decided to take such a step. In addition, some research shows the almost undivided opinion of members of the academic community and the professionals in Sudan that currently it is not possible to apply IFRS due to a lot of obstacles.

For example, in his research, Abouagla (2017) examined academics' views on financial reporting in Sudan, focusing, among other things, on the possibilities of applying IFRS, as well as the benefits that their application would bring to the country. Table 1 shows the results of the questionnaire on the difficulties that prevent the adoption of IFRS in Sudan, with a high level of agreement of the respondents regarding all the difficulties identified in the research.¹ Specifically, the results show that even 84% of the respondents stated that it is not possible to adopt IFRS in Sudan currently due to numerous difficulties and obstacles related to: shortcomings of the government's regulatory system, weaknesses in the

¹ The sample in the survey consists of 50 respondents – academics in Sudanese universities and institutions (lecturers, assistant professors and associate professors). The data from tables 1 and 2 are modified for the purposes of this paper.

accounting education system, insufficient professional skills of accountants in practice, the need to provide additional training to accountants to understand and apply IFRS and high costs of building adequate infrastructure and resources to support accountants working on IFRS.

Table 1. The difficulties to the application of IFRS in Sudan

Difficulties	Mean	S.D.	Agree (%)	I do not know (%)	Dis-agree (%)
Shortcomings of the government's regulatory system	4.02	1.02	73.81	14.29	11.90
Insufficient professional skills of accountants in practice	4.02	0.98	83.33	9.53	7.14
Weaknesses in the accounting education system	4.00	0.86	92.86	0.00	7.14
The need to provide additional training to accountants to apply IFRS	4.40	0.50	100.00	0.00	0.00
The high costs of building infrastructure to support accountants working on IFRS	4.10	1.01	78.57	9.53	11.90
Islamic banks should follow the Islamic accounting standards	4.21	1.16	88.10	0.00	11.90

Source: Abouagla, M. (2017). *The current state and perspectives on financial reporting in Arab countries – the Sudan as a case study*. Doctoral dissertation. University of Belgrade, Faculty of Economics, p. 141.

Also, respondents stated that among the obstacles is the fact that IFRS are based on the Anglo-Saxon model of financial reporting, as a result of which they are not appropriate to the specifics of the local environment in Sudan. As we previously stated, it is worldwide problem, because IFRS have been developed for the environment of the developed countries, so it is not easy to adopt them by the developing countries. Finally, most of businesses in Sudan are a family business, which makes IFRS less relevant in such an environment.

This view on the possibilities of applying IFRS in Sudan is joined by representatives of various professional and regulatory bodies who were also interviewed in the aforementioned study. Respondents from SAAPOC, NAC (National Audit Chamber), Taxation chamber and Central bank of Sudan generally agree that the main obstacles to the introduction of IFRS in Sudan are:

- The weak government support and the strong government domination over the accounting profession;
- Lack of legal obligation;
- Political issues;
- Inconsistency of IFRS with Islamic law and Islamic accounting standards applicable in banks and insurance organizations in Sudan.

One of respondents from Taxation chamber even stated that “currently there isn’t any company or sector that can adopt the IFRS in Sudan except the banking, but only to some extent” (Abouagla, 2017: 168).

When speaking about the banks, it should be mentioned that the banking sector and insurance organizations are the most organized sectors in Sudan. These financial institutions are the only ones obliged to apply professional accounting standards in Sudan, and therefore the opinion is imposed that IFRS could be applied first in these sectors. However, we think that is not a good enough basis to enable the successful implementation of IFRS, because there are many differences between AAOIFI standards, used by banks, and IFRS. Namely, while IFRSs are based on reporting on the economic substance of business transactions, AAOIFI standards are Islamic accounting standards that must be in compliance with the Islamic law (Shariah). Therefore, their incompatibility leads to the fact that these two types of standards would result in completely different reporting if applied to the same business transactions.

Another study conducted in Sudan should be mentioned here, which came to similar conclusions about the main impediments to the introduction of IFRS in Sudan. Among the biggest obstacles, the authors recognize the internal environmental constraints, such as: the absence of clear reference in corporate law and other business regulation to the implementation of IFRS, the lack of professional skills and competencies of accountants, the weak training of accountants in practice (and lack of financial resources for better professional training), the lack of curricula dedicated to IFRS at Sudanese universities, the weak and insufficiently interested local professional association of accountants for the application of IFRS and the absence of awareness of managers and accountants about the importance of applying IFRS. This research also emphasizes the importance of external environmental factors, among which the most significant are: the lack of foreign multinational companies that would accelerate the implementation of IFRS and insufficient cooperation with international organizations such as IFAC, WTO, IASB, etc. (Elfaki & Hassan, 2018).

At the end, we can conclude that the nature of the mentioned obstacles is such that they seriously slow down and prevent any attempt to implement IFRS in Sudan. As a confirmation, the results of the presented researches show a high degree of agreement of academics from the Sudanese universities regarding the importance of all analyzed obstacles.

IFRS AS A TOOL FOR IMPROVING THE QUALITY OF FINANCIAL REPORTING IN SUDAN

Despite the numerous obstacles that impede the application of IFRS in Sudan, there is no doubt that there are numerous benefits that their application could bring. As previously emphasized, the application

of IFRS in many developing countries has led to improvements in the financial reporting system, which is reflected in increased quality, reliability and transparency of disclosed information. Consequently, wider disclosure of quality financial information leads to a reduction of the information asymmetry, better investor protection and lower costs of capital.

For example, a survey conducted in Ghana on companies listed on the local stock market confirmed that the application of IFRS in that country (after 2006) significantly improved the quality of accounting disclosures in just two years (Agyei-Mensah, 2013). A similar examination of the effects of the application of IFRS in Saudi Arabia in 2007 showed the positive impact of IFRS on the quality of financial reporting and the value of listed companies. The transition to IFRS in this country has also had a positive impact on the patterns of behavior of investors in the domestic financial market due to their greater confidence in the financial statements (Malagy, 2014).

The aforementioned research conducted in Sudan examined the opinion of professors from Sudanese universities about the potential benefits of applying IFRS in this country (Abouagla, 2017). The results showed that there is a strong consensus among respondents on the anticipated benefits of using IFRS. In this sense, as many as 96% of respondents believe that the application of IFRS can enhance the comparability of financial reports, while 92% from the total sample think that it ensures transparency and reliability of financial statements. Also, 88% of respondents believe that the potential benefits of applying IFRS are reflected in facilitating the growth of foreign direct investment, while only 76% stated that it can lead to the reduction of the possibility of illegal acts, such as frauds. Table 2 highlights the perception of the academics about the benefits that may be obtained from the adoption of IFRS in Sudan.

Table 2. The benefits of the potential implementation of the IFRS in Sudan

Benefits	Mean	S.D.	Agree (%)	I do not know (%)	Dis-agree (%)
Accelerates the growth of foreign direct investments	4.44	0.85	88.00	0.00	12.00
Reduces the possibility of illegal acts, such as frauds	4.32	0.99	76.00	2.00	22.00
Increases the comparability of financial statements	4.46	0.78	96.00	4.00	0.00
Ensures transparency and reliability of financial statements	4.49	0.78	92.00	0.00	8.00

Source: Abouagla, M. (2017). *The current state and perspectives on financial reporting in Arab countries – the Sudan as a case study*. Doctoral dissertation. University of Belgrade, Faculty of economics, p.142.

The same survey included interviews with relevant representatives of the SAAPOC and other regulatory bodies in Sudan (Abouagla, 2017). Their opinion on the benefits of applying IFRS complements previous results and could be summarized as follows:

- Implementation of IFRS could enable the rehabilitation of accountants and development of all accounting practices in the country;
- The use of IFRS would result in intensified cooperation with international organizations;
- Due to the increased comparability and reliability of financial statements, the application of IFRS would facilitate the flow of foreign direct investments;
- IFRS may enable Sudanese companies to enter the international financial markets and help international companies to facilitate their accounting work in Sudan.

There is no doubt that the introduction of IFRS in Sudan would improve the quality of financial reporting, and thus communication with users such as current and potential investors. Increased user confidence in the financial statements and the lower investment risks leads to a greater presence of international companies and an increase in foreign direct investment. This results in a raised level of efficiency of the domestic market and in an increase in the rate of economic growth. In addition to attracting foreign companies and facilitating their financial reporting to Sudan, the application of IFRS also helps domestic companies to access international capital markets. Finally, the application of IFRS contributes to the development of accounting profession and makes it close to the accounting practices in developed countries (Kieso & Wygand, 1995).

CONCLUSION

The main purpose of IFRS, as a single set of high-quality accounting rules, is to improve the quality and transparency of the financial reporting process and to enable the comparison of financial statements across the countries. Benefits from a common financial reporting language are reflected in providing reliable information to current and potential investors of the company, whose better institutional protection leads to a reduction in costs of capital, increased cross border investments, more efficient global financial integration and accelerated economic growth. As such, IFRS are rules that are primarily intended for economically developed countries, with a tradition of quality financial reporting, developed capital markets, good legal protection of investors and adequate enforcement mechanisms.

On the other hand, in many developing countries the local political, economic, cultural and legal environment is an obstacle to the effective

implementation of IFRS. Numerous specifics and variations of these factors of the local environment lead to numerous problems when trying to uncritically and linearly implement IFRS, because what suits one country usually does not suit another. In this regard, there is a general question of the justification of establishing a single regulatory framework for all specific information needs of different countries.

Sudan is an African country with an underdeveloped economy, low economic growth rate and a British colonial legacy. There is a capital market in this country, but the number of transactions is negligible, so in such an environment, creditors and tax authorities are the main users of financial statements, with the great influence on the functioning of accounting. This has resulted in a low level of development of the accounting profession, a small number of competent professionals, inadequate financial reporting regulations and a lack of membership of SAAPOC in international organizations, such as IFAC. Also, the economic environment in Sudan is characterized by a low level of foreign direct investment, inadequate governance, bad local legislative, non-transparency and the lack of other important factors of local infrastructure that are vital to the successful adoption of IFRS. All of the above is a set of impediments for the implementation of IFRS in this country, which for obvious and understandable reasons has not yet decided on such a major step. Therefore, the question that arises pertains not only to whether Sudan should apply IFRS, but also whether this country is currently capable of doing so, having in mind all of the stated aggravating factors and limitations.

In our research, it was found that respondents (professors from Sudanese universities and other institutions) believe that the key obstacles to the application of IFRS in Sudan are: shortcomings of the government's regulatory system, weaknesses in the accounting education system, insufficient professional skills of accountants in practice, the need to provide additional training to accountants to understand and apply IFRS and high costs of building adequate infrastructure and resources to support accountants working on IFRS. Also, obstacle to the application of IFRS in Sudan is the fact that most of businesses in Sudan are family owned and that Anglo-Saxon standards are not appropriate to the specifics of the local environment in Sudan. On the other hand, according to the same respondents, the anticipated benefits of the possible application of IFRS are reflected in: facilitating the growth of foreign direct investment, ensuring the transparency, reliability and comparability of financial statements and the reduction of the possibility of illegal acts, such as frauds.

As a global set of uniform standards, IFRS should improve the quality and comparability of financial reports and provide value-relevant information. However, national governments and other interested parties must weight well costs and benefits of IFRS adoption, because uniform accounting rules may not be to the same extent appropriate to all countries. Therefore,

“whichever course some country decides to take, quality of financial reporting is based not only on the accounting standards, but also the company’s own business model, structure, including the cultural, economic, legal and political systems in which it operates” (Alali & Lei, 2010: 85). Sudan is no exception to this statement and it is confirmed by the review of the current possibilities and limitations of the introduction of IFRS in this country.

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ДА ЛИ МСФИ МОГУ ДА ПОБОЉШАЈУ КВАЛИТЕТ ФИНАНСИЈСКОГ ИЗВЕШТАВАЊА У СУДАНУ?

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Резиме

Изаови са којима се сусрећу компаније у земљама у развоју потичу, између осталог, и због нехармонизованог начина финансијског извештавања са праксом развијених економија, из којих се најчешће и очекује прилив страних директних инвестиција. Судан, као земља са неразвијеном економијом, неадекватним законодавством, слабом рачуноводственом професијом и бројним културним специфичностима суочава се са тим изазовима. Свакако да је један од начина привлачења страних инвеститора обезбеђење поузданих и релевантних финансијских извештаја, састављених у складу са глобално опште прихваћеним рачуноводственим принципима, оличеним у Међународним стандардима финансијског извештавања (МСФИ). У том смислу, сврха овог рада је да размотри могућности и предуслове за примену МСФИ у Судану.

Кључно питање које се појавило током истраживања перцепција академске јавности о овој теми није било да ли Судан треба да примењује МСФИ, већ да ли је тренутно могуће уопште применити МСФИ у овој земљи, с обзиром на бројне потешкоће које то спречавају. У нашем истраживању утврђено је да испитаници (професори са суданских универзитета и других институција) верују да су кључне препреке примени МСФИ у Судану: недостаци владиног регулаторног система, слабости у систему рачуноводственог образовања, недовољне професионалне вештине рачуновође у пракси, потреба за пружањем додатне обуке рачуновођама за разумевање и примену МСФИ, као и високи трошкови изградње одговарајуће инфраструктуре и ресурса за подршку рачуновођама који раде на МСФИ. Такође, препрека у примени МСФИ у Судану је чињеница да је већина предузећа у Судану у породичном власништву и да англосаксонски стандарди нису прилагођени специфичностима локалног окружења. С друге стране, према истим испитаницима, предвиђене користи могуће примене МСФИ огледају се у: омогућавању раста страних директних инвестиција, обезбеђивању транспарентности, поузданости и упоредивости финансијских извештаја и смањењу могућности нелегалних дела, као што су преваре.

Свакако, примена МСФИ није потребан и довољан услов за побољшање квалитета финансијског извештавања у било којој држави, па ни у Судану, али уз разматрање осталих фактора (пословни модел компаније, економско, правно и генерално културолошко окружење), представља важан предуслов за реализацију тог циља.

TOURISM-LED ECONOMIC GROWTH HYPOTHESIS - AN EMPIRICAL INVESTIGATION FOR SERBIA

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Abstract

As it is commonly believed that tourism contributes positively to economic growth, many developing countries rely on tourism in their efforts to enhance their economic conditions. Serbia has also given priority to the development of tourism industry as a part of its economic growth strategy. In this paper we analyze the long-term effects of tourism on the economic growth of Serbia. More specifically, the tourism-led economic growth (TLEG) hypothesis is tested, which implies that tourism is a trigger of Serbian economic growth. This study investigates the causal relations between tourism growth and economic expansion for the Serbian economy by using cointegration analysis. The obtained results show that the hypothesis of tourism-led economic growth in the Serbian economy is confirmed.

Key words: TLEG, economic growth, tourism, GDP, cointegration analysis

ХИПОТЕЗА О ПОДСТИЦАЈУ ЕКОНОМСКОГ РАСТА ОД СТРАНЕ ТУРИЗМА – ЕМПИРИЈСКО ИСТРАЖИВАЊЕ ЗА СРБИЈУ

Апстракт

Како је прихваћено да туризам позитивно доприноси економском расту, многе земље у развоју се ослањају на туризам у својим напорима да побољшају своје економско стање. Србија је, такође, дала приоритет развоју туристичке индустрије као саставном делу своје стратегије економског раста. У овом раду анализиран је дугорочни ефекат туризма на економски раст Србије. Тестирана је хипотеза економског раста вођеног туризмом (ТЛЕГ), која подразумева да је туризам покретач српског привредног раста. Ова студија истражује узрочне везе између раста туризма и економске експанзије за српску економију коришћењем

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коинтеграционе анализе. Добијени резултати показују да је у српској економији потврђена хипотеза о привредном расту вођеним туризмом.

Кључне речи: ТЛЕГ, економски раст, БДП, коинтеграциона анализа.

INTRODUCTION

In last several decades, tourism has been characterized by a high growth trend that made it into one of the largest and fastest growing industries in the world in the second part of the twentieth century (Goh & Law, 2002). According to World Travel Organization (UNWTO) data, for many countries, tourism has been identified as one of the most important sources of foreign receipt and employment growth. The number of foreign tourists in 2017 increased 7% in comparison to the previous year; over 1.3 billion travelers generated \$1.340 billion of tourism income, a 5% increase in comparison to the previous year (UNWTO, 2018). It is expected that by 2030, the number of international arrivals will be at the level of 1.8 billion (Statista, 2015). Besides the obvious financial effects coming from international travelers' flows and from domestic tourism for destinations and countries, it is necessary to note that tourism also employs labor, resources, equipment and facilities which further add value to the local economy and quality of local life (Hazari & Sgro, 1995). In many countries, tourism represents one of the leaders of national progress. Also, tourism is the catalyst for capital transfers between countries. Since the total tourism expenditures and tourism income are higher than global export of good and services, tourism is a good solution for the encouragement of the development for many regions and destinations (Braun, Lanza & Pigliaru, 2003). In global tourism figures, Europe represents the most dominant player with over 50% share of international arrivals (Statista, 2021), and that is the reason why EU countries have put emphasis on tourism industry as a great platform for economic growth and development (Lee & Brahmašre, 2013), much like other countries around the globe (Matarrita-Cascante, 2010).

The purpose of this study is to investigate the tourism-led economic growth (TLEG) hypothesis for Serbia. Although tourism industry has grown significantly in Serbia in the last decade excluding 2020, there is a lack of research papers in the domain of the contribution of the tourism sector to the country development. Our research is the first one in this field and the aim is to give answers to the two following questions. Firstly, is there a long-run equilibrium relationship between tourism and economic growth in Serbia? And, if a stable long-run relationship exists, what is the direction of the causal relationship between these two variables?

THE IMPACT OF TOURISM ON ECONOMIC DEVELOPMENT

The importance of tourism for the global economic development can be seen in the fact that tourism directly generated 4.6% of the global GDP, and when we add indirect and induced effects, the total contribution is 10.4%, while the contribution to global employment is also high with 9.9% of employees in the world working directly or indirectly in the field of tourism (WTTC, 2018). This means that tourism has been given a lot of official attention from country economies, since it is considered as the third job-making and profitable industry in the world (Balaguer & Cantavella, 2002). At the same time, the term “industry” is used to emphasize tourism as a sector due to its status for the national economies and the fact that many countries start to refocus their economies from other industries (such as the oil industry) to tourism (Razaghi & Alinejad, 2012). Increasing every year, both in quantity and quality, the international tourism bears a significant influence on economic performances and exchange balance of national economies and their payments (Sinclair, 1998).

The economic impact of tourism on the national economic performances and growth indicators is a lot more important than what was thought few decades ago (Razaghi & Alinejad, 2012). One of the key roles of tourism from the economics perspective is a role in accumulating capital and income, and presenting positive figures in the national account balances (Durbary, 2004). In addition, tourism is a platform of redistribution of the capital and wealth of nations (Hazari & Sgro, 1995).

According to academic research, we can differentiate between various types of tourists types based on the manner of interaction with the destination, where interaction can vary between being very high (high consummation of typical local products and increased expenditure in local economy) and being very low (almost without using local products and low level of expenditure) (Williams and Shaw, 1998): expeditor, elite, guest owner of the second house, individual tourist and mass tourist. In general, mass travelers create an economy of scale, meaning that income will rise due to large number of tourists. But, individual travelers and elite ones are those who will choose to organize customized trips to fully understand the local destination, and therefore will create higher impact to local economy.

Theoretical and empirical research show no consensus on whether tourism stimulates economic activity, or economic activity leads to tourism growth since changes in economic and/or tourism conditions can alter the nature and magnitude of the relationship between these two over time, among others (Antonakakis, Dragouni and Filis, 2015). Research shows that countries with developed tourism sectors record above average economic growth, meaning that countries with relative abundant natural resources will specialize in tourism and achieve faster economic growth (Lanza and Pigliaru, 2000). Tourism is an important factor in the diffu-

sion of technical knowledge, stimulation of research and development, and the accumulation of human capital and all mentioned influence long-term sustainable economic growth (Schubert, Brida and Risso, 2011).

TOURISM-LED ECONOMIC GROWTH (TLEG) FRAMEWORK

Chatziantoniou, Filis, Eeckels & Apostolakis (2013) defined four types of links between economic and tourism development: unidirectional causality between the two variables in a form of tourism-led economic growth (TLEG), unidirectional causality in a form of economic-driven tourism (EDTG), a bidirectional relationship between tourism and the economy (BC) and the form in which there is no relationship at all (no causality NC).

TLEG hypothesis was directly derived from the export-led growth theory which starts from the postulate that economic growth is generated not only by the increasing the amount of labor and capital within an economy, but also by expanding exports (Brida, Cortes-Jimenez & Pulina, 2016). According to the TLEG hypothesis, there is a flow of benefits from tourism to the economy, due to additional multiplicative effects (Schubert, Brida & Risso, 2011), most often seen through direct financial benefits (McKinnon, 1964), the increase of investments, competition and small and medium enterprises (SMEs) efficiency (Balaguer & Cantavella-Jorda, 2002) increase employment since tourism is a human-resources based industry (Brida & Pulina, 2010), and lead to positive economics of scale (Croes, 2006). Positive results of TLEG hypothesis are also seen in other researches as well (Ivanov & Webster, 2013; Surugiu & Surugiu, 2013). On the other hand, some researches show that the growth of tourism is the result of economic growth and the increase of economic activities (Narayan, 2004; Tang, 2011), meaning that is it result for the well-planned and well-implemented economic and infrastructure policies (Payne & Mervar, 2010).

At the same time, recent research shows that the tourism-economic growth relationship is not stable over time in terms of either magnitude and direction, indicating that the tourism-led economic growth (TLEG) and the economic-driven tourism growth (EDTG) are time-dependent (Antonakakis, Dragouni & Filis, 2015). This was confirmed by other authors as well (Lean & Tang, 2010; Tang & Tan, 2013).

National development strategies should try to alleviate the negative effects of the economic conditions on the tourism sector by employing cost-effective strategies, which can promote tourist activity and increase tourism income, and lead to a change of the current EDTG to TLEG (Antonakakis et al., 2015).

SERBIAN TOURISM PERFORMANCES AND THE CURRENT SITUATION

Serbian tourism performances in the observed period (2007-2017) had fluctuations that are typical for emerging markets without the properly implemented destination management system in place, and at the same time, the of the global tourism market trends. After a period of political challenges, it is logical that in years up to 2005 tourism performances (arrivals, overnights and income) were decreasing. In the period 2006-2007, before the economic crisis, tourism in Serbia showed slight increase, but in the period 2009-2011, the growth rate was negative again. From 2011 to 2017 tourism in Serbia had an average annual growth rate of 6% in number of arrivals. It is interesting to note that in the entire observed period the number of foreign tourists was increasing year-to-year and 2017 saw 4.8 times more foreign travelers, meaning that for the entire period the cumulative growth rate of foreign tourist was 20.21%.

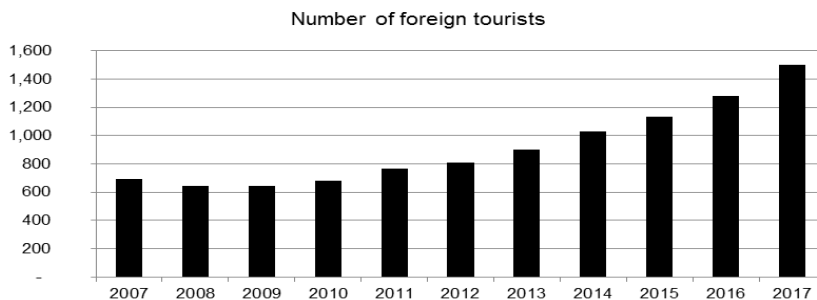


Figure 1. Number of foreign tourists in Serbia from 2007-2017

Source: Authors calculation, based on data from Statistical office of Serbia

Domestic tourist arrivals had an average annual growth rate of -28% in 2007-2014, but in 2015-2017, the performance of domestic tourists was on the rise, with an average growth rate of 11.87%. However, the total volume of tourist arrivals did not reach that of the base year.

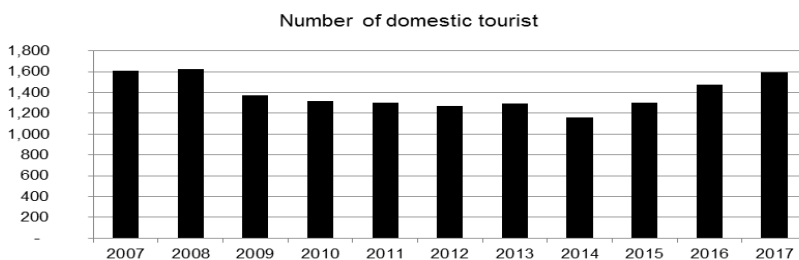


Figure 2. Number of domestic tourists in Serbia from 2007-2017

Source: Authors calculation, based on data from Statistical office of Serbia

When it comes to international tourism receipts, in 2017 it amounted to 1.17 billion euros, which is 1.9 times more than in 2007. The average annual growth rate of international tourism receipts in the period 2011-2017 was 7.52%, with a small decline in the period 2007-2010, when the average annual growth rate was -0.9%.

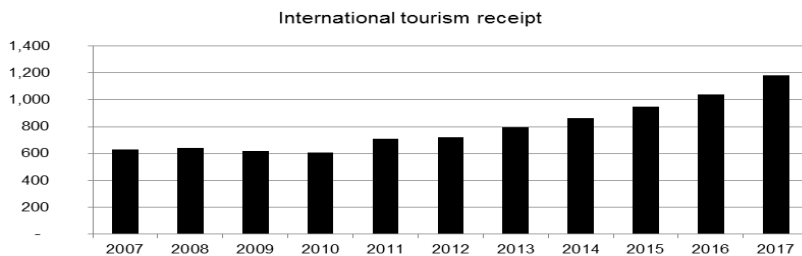


Figure 3. International tourism receipt in Serbia from 2007-2017

Source: Authors calculation, based on data from Statistical office of Serbia

In 2017, tourism contributed directly to GDP in amount of 0.9%. Observing the total contribution of the tourism industry to the Serbian economy, this contribution increases to RSD 294.6 billion in 2017 including the effects from investment, supply chain and induced income impacts (OECD, 2020).

For research purposes in this paper, we used data of international tourism receipts to show whether and what impact tourism has on the economic growth of the country measured in the amount of GDP. This variable was used in other similar studies with the same goal to analyze the impact of tourism on the country's economic growth (Arslanturk et al., 2011; Belloumi, 2010; Boža & Erkiši, 2019; Demiroz & Ongan, 2005; Wu & Wu, 2018). One more reason for using this variable lies in the fact that tourism in Serbia has faced strong restructuring of the tourism demand in the last 15 years. On the one hand, the strong decrease of the domestic tourism performances is evident due to visa liberalization, and the negative influence of economic crisis on the local travelers' house income. Visa liberalization allowed middle- and higher-income segments to travel to destinations, such as Greece, Italy and Spain, while the lower income segments were constrained by the economic crisis. Regarding foreign tourists, strong increase of visitations from neighboring countries, as well as from Italy, Germany and Russia, influenced positive total tourism performances. This restructuring of the key segments and the focus on foreign tourists, made tourism more important for the Serbian economic development (Zečević, et al., 2014). At the same time, constant work on upgrading regulatory framework, investments in road infrastructure and tourism infrastructure, and the support to the tourism investment, are also seen as the factors that influenced the increase in the number of for-

eign tourists in Serbia (Čerović, et a., 2015). Development of new tourism products with focus on unique experience, such as rural tourism and mesuages-based tourism (Bošković & Maksimović, 2019) or niche tourism based on bird watching (Krejić et al., 2019) are also an inevitable attraction-moment for foreign tourists. Market restructuring, best seen through the opening of brand new hotel properties in upper and upper-upscale segment, with significant congress facilities, increase Serbia's attractiveness for foreign business travelers (Kovacevic, et al, 2019). Also, the evident proactive approach to the activities of bidding for international events to take place in Serbia are also important, representing a market driven factor that influences the increase in the number of foreign tourists in Serbia (Kovačević el al, 2020).

RESEARCH MODEL AND THE ECONOMIC RESULTS

Econometric results of the model are presented through four subsections of the paper. First, the obtained results of the cointegration analysis are reported and the estimated vector equilibrium correction model (VECM) is explained. Then, dynamic responses of gross domestic product (GDP) to unexpected structural shocks in consumption of foreign tourists (CFT) are presented via forecast error variance decomposition (FEVD). Also, FEVD was used vice-versa, i.e. to show dynamic responses of the consumption of foreign tourists to unexpected structural shocks in the gross domestic product. Results are obtained using Eviews10 software.

Sample View and Data Analyses

Two variables are observed in this paper. Data on the gross domestic product are available from Statistical Office of Republic of Serbia and data on the consumption of foreign tourists are available from the National Bank of Serbia. We created quarterly data of the consumption of foreign tourists since the monthly data are available from the National Bank

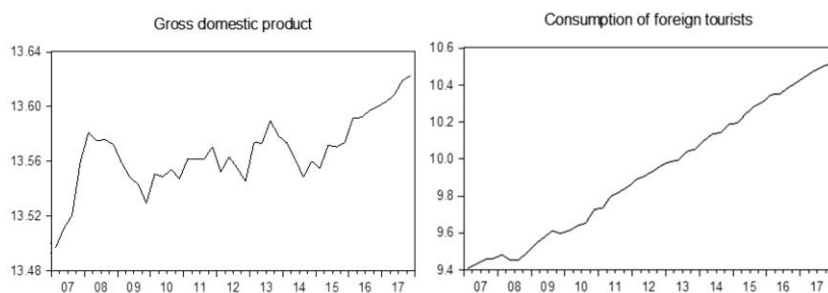


Figure 4. GDP and CFT, log values, Q1 2007-Q4 2017

Source: Authors' calculation

of Serbia. Considering the consumption of foreign tourists is a variable of flow, we have aggregated monthly data into quarterly data by summarizing monthly data. Quartile observations in logs are used covering the period: the first quarter of 2007 to the last quarter of 2017. All the data are seasonally adjusted. The results were obtained using Eviews10.

Methodology Used

The paper examined the existence of a cointegration relationship between the gross domestic product and the consumption of foreign tourists.

Before defining and estimating the cointegration vector, the stationarity of the variables should be examined. Weak stationarity means that the mean and the variance of a series are constant through time and the autocovariance of the series is not time varying (Enders, 1995). Since wrong choice of data transformation gives biased results and results in misinterpretation, the stationary test is of great importance for setting up the specification and estimation of the valid model (Engle & Granger, 1987). Therefore, the first step in testing for cointegration is testing the order of integration of the variables. In brief, integration means that if previous shocks remain undefined, they affect the realization of the series forever, and the series has a theoretically infinite variance and a time-dependent mean (Enders, 1995). There are many unit root tests, but we used Augmented Dickey–Fuller (ADF) (Dickey & Fuller, 1981), Phillips–Perron (PP) (Phillips & Perron, 1988) and Kwiatkowski–Phillips–Schmidt–Shin (KPSS) (Kwiatkowski, Phillips, Schmidt & Shin, 1992) tests in order to examine the stationarity of the variables. Once we have showed that variables are $I(1)$, we proceed with testing the cointegration. If we confirm the presence of the cointegration relationship between non-stationary variables, we will continue with estimating VECM. Granger causality testing will be performed. The premise is that if there is cointegration in the system of GDP and CFT, the dynamic relationship has to be analyzed.

Testing for Cointegration in Model

The first step of this paper is to demonstrate that the variables used are non-stationary. The results of testing the order of integration of GDP and CFT are provided in Table 1. Applying the ADF test to the first difference of GDP, we obtained that the first difference is stationary, which means that GDP is non-stationary. The first difference of GDP was stationary based on each unit root tests. On the other hand, the result of the ADF test for the CFT showed that the series is stationary, respectively that we reject the null hypothesis of non-stationarity. Next, we carried out PP and KPSS tests, and, based on the p-value for both tests, we conclude

that the null hypothesis of non-stationarity of variable is supported and that the first difference of CFT was stationary based on these unit root tests (Table 1). Accordingly, the variables were expressed to be I (1). Given the results of the unit root, cointegration was examined between GDP and CFT using Johansen procedure. (Johansen, 1988).

Table 1. Unit root tests

	ADF	SW	P	PP	KPSS	Results
	(p value)					ADF/PP/KPSS
GDP (constant & trend)	-2.75	1.39 (0,171)	0			I(1)
GDP (constant)	-2.12		0	-2.31	0.711	I(1)/I(1)/I(1)
Δ GDP	-3.5		1	-6.34	0.090	I(0)/I(0)/I(0)
CFT (constant & trend)	-5.11	9.19 (0.000)	8	-3.07	0.153	I(0)/I(1)/I(1)
Δ CFT				-7.47	0.086	-I(0)/I(0)

Source: Authors' calculation

Note: Test statistics that reject unit root null hypothesis is bolded for ADF and PP tests.

KPSS test, test statistics are bolded when we do not reject stationarity hypothesis. P denotes number of correction factors. The 5% critical value for the ADF and the PP tests is -3.41 in the model with a constant and trend and -2.86 in the model with a constant as only deterministic component. The 5% critical value for the KPSS test is 0.463 for GDP and 0,146 for CFT, and the 1% critical value for the KPSS test is 0.739 for GDP and 0,216 for CFT.

ADF unit root test for CFT shows that CFT is trend-stationary variable, whereas other tests give opposite result. Philips-Perron (PP) and Kwiatkowski-Phillips-Schmidt-Shin test (KPSS) both show that CFT has one unit root and that the first difference is stationary. Based on that, we can conclude that CFT is non-stationary and that it has one unit root, which will be confirmed within cointegration analysis.

Since both variables have one-unit root, we proceed with cointegration analysis. For cointegration analysis, we used GDP and CFT in levels since the variables are of the same order of integration.

The presence of one cointegrated vector and one common stochastic trend is detected by Johansen trace test, as presented in Table 2.

Table 2. Testing for cointegration

Hypotheses	Eigenvalue	Trace Statistic	0.05 Critical Value	p-value
H0: $r=0$ and $p-r=2$				
H1: $r>0$	0.485836	35.35194	25.87211	0.0025
H0: $r=1$ and $p-r=1$				
H1: $r>1$	0.178834	8.078236	12.51798	0.2454

Source: Authors' calculation.

Note: Number of cointegrated vectors is denoted by r and p is number of variables (GDP and CFT, which is two).

The results of Johansen procedure show that there is one cointegration vector in the system. The estimated cointegrated vector is as follows:

$$\text{GDP}=0.8\text{CFT}+0.021t-6.04$$

The estimated cointegration vector is also depicted in Figure 5. Evidently, cointegration vector neutralized the individual stochastic trends of variables.

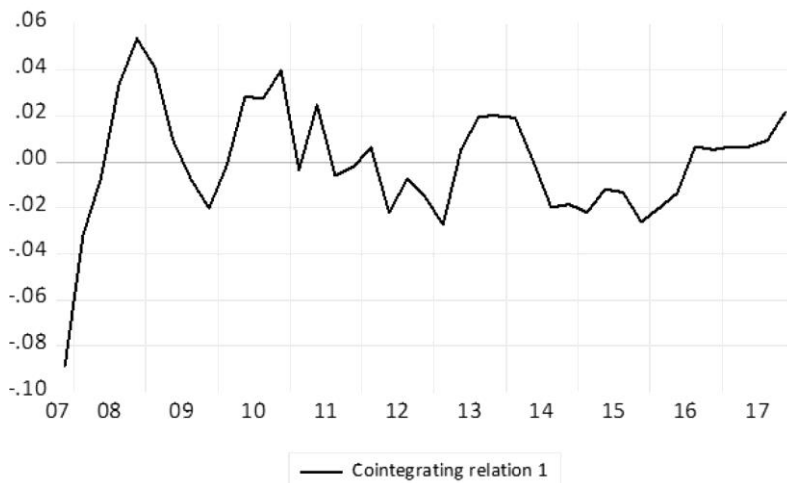


Figure 5. Estimated cointegration vector

Source: Authors' calculation.

The presence of one cointegration relation in the model is also confirmed based on the corresponding roots derived under restriction that one cointegration vector exists. It is depicted in Table 3 and Figure 3 that only one of six values is exactly one, which indicates that system has a common stochastic trend.

Table 3. Roots of characteristic polynomials in modulus

Root 1	Root 2	Root 3	Root 4	Root 5	Root 6
1.00	0.77	0.77	0.55	0.55	0.17

Source: Authors' calculation.

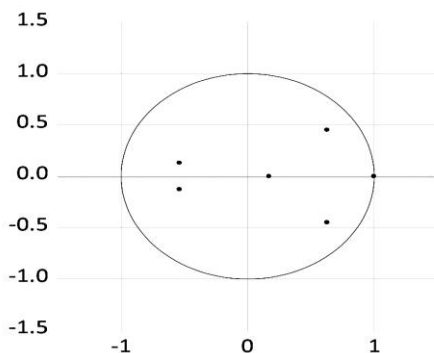


Figure 6. Graphic view of characteristic polynomials in modulus
Source: Authors' calculation.

After we have shown that there is a cointegration relation between GDP and CFT, we have proceeded with the testing of causality according to the Granger causality test.

Table 4. The Granger causality testing

The null hypothesis	Test statistics (p value)	Testing results
Consumption of foreign tourists does not cause gross domestic product in the sense of Granger.	7.142018 (0.0281)	H ₀ is rejected
Gross domestic product does not cause consumption of foreign tourists in the sense of Granger.	2.812171 (0.2451)	H ₀ is not rejected

Source: Authors' calculation.

Based on the results from the first part of Table 4 we can conclude that the hypothesis claiming that consumption of foreign tourists does not cause gross domestic product in the sense of Granger does not stand. Precisely, it means that we reject H₀ hypothesis because the p value of 0.0281 is less than critical value of 0.05.

Based on the results showed in the second part of Table 4, we can conclude that p value of 0.2451 is higher than critical value of 0.05, which indicates that we accept H₀ hypothesis. Therefore, we can claim that CFT causes GDP in the sense of Granger, but does not stands the other way around. Model performs statistically well, as confirmed by multivariate tests for autocorrelation and normality. Multivariate tests for testing the presence of autocorrelation are performed. They are presented in Table 5, and we can conclude that there is no joint residual autocorrelation, as shown by the use of the Rao F statistics. There is autocorrelation at lags 2 and 4, but there is no cumulative autocorrelation on those both lags.

Table 5. Multivariate test statistics for autocorrelation

Lags (h)	H ₀ : There is no correlation at lag h		H ₀ : There is no correlation at lags 1 to h	
	Rao F statistics	P-value	Rao F statistics	P-value
2	2.249311	0.0735	1.508844	0.1733
4	2.545689	0.0478	1.264499	0.2550
6	1.027894	0.3998	1.122545	0.3606
8	0.040402	0.9968	0.763026	0.7798
10	0.375561	0.8252	0.664747	0.8837
12	0.656653	0.6244	0.690244	0.8536

Source: Authors' calculation.

The Doornik-Hansen multivariate version of the Jarque-Bera test statistics is $\chi^2_4 = 1,751$ ($p = 0.782$) indicating that residuals do not depart significantly from multivariate normal distribution. We can conclude that the model performs statistically well.

Estimated Vector equilibrium correction model (VECM):

$$\begin{bmatrix} \widehat{\Delta GDP}_t \\ \widehat{\Delta CFT}_t \end{bmatrix} = \begin{bmatrix} -0.290 \\ (-4.088) \\ 0.334 \\ (2.772) \end{bmatrix} \begin{bmatrix} 1 & -0.807 & 0.021 & -6.040 \\ & (-4.372) & (4.156) & \\ & & & \\ & & & \end{bmatrix} \begin{bmatrix} GDP_{t-1} \\ CFT_{t-1} \\ trend \\ c \end{bmatrix} + \begin{bmatrix} -0.041 & -0.242 \\ (-0.301) & (-2.659) \\ -0.165 & -0.044 \\ (-0.719) & (-0.284) \end{bmatrix} \begin{bmatrix} \Delta GDP_{t-1} \\ \Delta CFT_{t-1} \end{bmatrix} + \begin{bmatrix} 0.161 & -0.038 \\ (1.214) & (-0.404) \\ -0.343 & 0.275 \\ (-1.530) & (1.737) \end{bmatrix} \begin{bmatrix} \Delta GDP_{t-2} \\ \Delta CFT_{t-2} \end{bmatrix} + \begin{bmatrix} 0.009 \\ 0.021 \end{bmatrix}$$

Note: t-ratios are in parentheses and Δ is the first difference operator.

Results obtained imply that in the long run, 1% of change in CFT is associated with 0,8% of change in the same direction in GDP. It means that the rise in the consumption generates, in the long run, a growing trend of gross domestic product, but not vice-versa. On the basis of the estimate of the adjustment coefficient in the equation for the first difference of GDP (-0,29), the dynamics of GPD is adjusted each quarter by a bit less than one thirds towards a long-run relation with CFT.

Impact of Shocks on the Dynamic Effects of Time Series in Model

Since the long-run influence of CFT on GDP has been found, it is important to establish how the impact of CFT on GDP evolves through the time. These dynamics effects are computed via the forecast error variance decomposition calculation based on vector equilibrium correction model (VECM). The results of the forecast error variance decomposition calculation are showed in Table 6.

Table 6. Forecast error variance decomposition calculation of gross domestic product and consumption of foreign tourists

Quartiles	Gross domestic product		Consumption of foreign tourists	
	Shock in gross domestic product	Shock in consumption of foreign tourists	Shock in gross domestic product	Shock in consumption of foreign tourists
2	93	7	1	99
4	72	28	3	97
6	50	50	8	92
8	40	60	13	87
10	37	63	15	85
12	36	64	15	85

Source: Authors' calculation.

Note: rows sum to 100% for each variable.

It is reported that variability of gross domestic product is in larger portion explained by shocks in consumption of foreign tourists when horizon of observation is longer than two years. The contribution of consumption of foreign tourists is estimated to be 28% for one year, but 60% and 64% for two and three years, respectively. On the other hand, the variability of consumption of foreign tourists is almost all due to its own shocks for six quartiles. It amounts to 92%. After three years, shocks drop to 85% whereas shocks in GDP amount to 15%.

CONCLUSION

Tourism represents one of the most important sources of foreign exchange earnings, employment of domestic labor and a source of growth for a country. The governments of a great number of countries consider tourism as a trigger of economic growth and social progress. Consequently, they seek to maximize the potentials of tourism through adequate strategies. In this paper we try to analyze the impact of the tourism sector on the economic growth of Serbia. Excluding 2020, the last decade brought significant tourism market changes in Serbia, resulting in positive shifts in all aspects of tourism performances, such as changes in the offer structure, number and tourist segments, and tourism performance indicators. The period encompassed by our research is 2007-2017, which in general shows growth in number of international and domestic travelers, as well as growth in international tourism receipts. This is also the period when a significant level of investments in major and supporting tourism infrastructure has been done by government and private investors, and that supported the growth of tourism offer and its matching international standards. In this research we have used 11 years' data to explain tourism performances of Serbia on the macro level, and in general, the development of the country on the basis of changes in the gross domestic product.

Conducting the cointegration analysis, we have showed the presence of one cointegrated vector, which implied the positive relation between consumption of foreign tourists and gross domestic product of Serbia in the period 2007-2017. More precisely, with the growth of 1% of consumption of foreign tourists, the gross domestic product grew 0.8%. Furthermore, the Granger causality test has showed the positive impact of CFT on the GDP, but not vice-versa. Based on the all results obtained in this research we can conclude that the TLEG hypothesis is confirmed for Serbia.

The results of the obtained research should be understood in a limited manner since the obtained results could potentially differ if a larger number of variables were included in the model. Future research will certainly include some more variables such as total tourism earnings, total number of international tourist arrivals, real exchange rate, number of employees in tourism, etc. in order to more accurately demonstrate the impact of tourism on the country's economic growth.

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ХИПОТЕЗА О ПОДСТИЦАЈУ ЕКОНОМСКОГ РАСТА ОД СТРАНЕ ТУРИЗМА – ЕМПИРИЈСКО ИСТРАЖИВАЊЕ ЗА СРБИЈУ

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Резиме

У многим земљама туризам позитивно утиче на привредни раст, имајући у виду да се кроз туристичке токове врши акумулација и трансфер капитала, дохотка али и технолошког знања и људског капитала. Да туризам може представљати добру опцију за подстицање привредног раста сведочи и чињеница да земље са развијеним туристичким секторима имају изнад просечан економски раст (Lanza & Pigliaru, 2000).

Како би се утврдила веза између туризма и привредног раста Србије, у раду је спроведено тестирање тзв. ГЛЕГ хипотезе која тврди да туризам позитивно утиче на привредни раст земље. Циљ рада јесте да се покаже да постоји позитивна веза између туризма, израженог у потрошњи страних туриста (ЦФТ) и развијености привреде Србије, израженој у бруто домаћем производу (БДП). У истраживању је спроведена коинтеграциона анализа на кварталним подацима за ЦФТ и БДП у периоду од 2007. до 2017. године. Користећи се Јохансеновом процедуром потврђено је постојање једног коинтеграционог вектора, што даље имплицира постојање позитивне везе између потрошње страних туриста и бруто домаћег производа Србије. Како би се одредио смер узрочности коришћен је Грејнцеров тест каузалности, којим је потврђено да ЦФТ утиче на БДП, али да обрнуто не важи. Конкретно, резултати су показали да са променом од 1% у ЦФТ долази до промене од 0.8% БДП у истом смеру. То значи да ће у дугом року пораст потрошње страних туриста генерисати растући тренд БДП-а, али не и обрнуто.

На основу оцењеног коефицијента прилагођавања у оцењеном векторском моделу са корекцијом равнотежне грешке (ВЕЦМ) у једначини за прву диференцу БДП-а (-0,29), БДП се прилагођава сваког квартала за нешто мање од једне трећине дугорочној равнотежној вези са ЦФТ. На основу декомпозиције варијансе грешке предвиђања показано је да је варијабилност БДП-а у већој мери објашњена шокovima у ЦФТ-у, него обрнуто. Контрибуција ЦФТ варијабилности БДП-а, процењена је на 28% након прве године, док је након друге и треће године тај проценат 60% и 64%. С друге стране, варијабилност ЦФТ се највише дугује сопственим шокovima (92%) за период од 6 квартала. Након 3 године, варијабилност захваљујући сопственим шокovima пада на 85%, док се 15% варијабилности остварује захваљујући шокovima у БДП-у. Да је модел статистички валидан потврђују спроведени мултивариоациони тестови за испитивање аутокорелације и нормалности.

На основу свих добијених резултата истраживања може се закључити да у случају Србије важи тзв. ГЛЕГ хипотеза, тј. да туризам позитивно утиче на привредни раст Србије. Добијене резултате треба свакако тумачити са резервом јер би се исход истраживања потенцијално могао разликовати уколико би у модел био укључен већи број варијабли. Будућа истраживања ће сигурно укључити још неке варијабле као што су укупна зарада од туризма, укупан број долазака међународних туриста, реалан девизни курс, број запослених у туризму, итд., како би се прецизније одредио утицај туризма на економски раст земље.

**ПРАВО, КРИМИНОЛОГИЈА
И ЈАВНА АДМИНИСТРАЦИЈА
LAW, CRIMINOLOGY
AND PUBLIC ADMINISTRATION**

INCORPORATION OF COMPANIES IN SERBIA - THE SCOPE OF PRESENCE OF ELECTRONIC AND TRADITIONAL PROCEDURES^a

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Abstract

Increasing the investment activity of the existing companies and stimulating the incorporation of new companies is one of the factors of economic development. Many factors determine the scope of economic activity in a country, one of them is the procedure for incorporating economic entities. If we start from the assumption that the investor, domestic or foreign, has assessed the possibility of profiting in a specific economic environment, the first step in the realization of their business idea is the incorporation of their company. The legislation in Serbia provides an opportunity for a significant part of the procedure for incorporating business entities to be conducted electronically. Using this opportunity implies the knowledge of several laws related to the procedure for incorporation registration, as well as mastering new e-methods of communicating and running business. In this paper, we point out the normative solutions related to the e-registration of companies in Serbia and the problems in the practice that the founders encounter. E-registration of business entities entails the understanding of numerous e-instruments such as: e-documents, qualified e-signature, e-address, user applications, qualified e-time stamp and others. Memorandum of Association and other acts can be made in written or e-form, so the question arises whether all documents when forming a company can be in e-form and how an e-document can be materialized without losing legal force. Another legal obligation in our country, for some companies, is the e-records of beneficial owners. We will deal with these and other practical issues that the founders of companies in Serbia face in this paper.

Key words: incorporation of companies, e-registration, Business Registers Agency, regulations, practical issues

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ОСНИВАЊЕ ПРИВРЕДНИХ ДРУШТАВА У СРБИЈИ – ЗАСТУПЉЕНОСТ ЕЛЕКТРОНСКЕ И ТРАДИЦИОНАЛНЕ ПРОЦЕДУРЕ

Апстракт

Повећање инвестиционе активности постојећих привредних друштава и стимулисање оснивања нових друштава јесте један од фактора привредног развоја. Много чинилаца детерминише обим привредне активности у једној држави, један од њих јесте и процедура оснивања привредних субјеката. Уколико појемо од претпоставке да је инвеститор, домаћи или страни, проценио могућност профитирања у конкретном привредном амбијенту, први корак у реализацији његове пословне идеје јесте оснивање привредног друштва. Законодавство у Србији пружа могућност да се значајан део процедуре оснивања привредних субјеката спроводи електронским путем. Коришћење ове могућности подразумева познавање више закона који се односе на процедуру регистрације оснивања, као и савладавање нових електронских начина комуникације и пословања. У овом раду указујемо на нормативна решења везана за е-регистрацију привредних друштава у Србији и проблеме у пракси са којима се оснивачи сусрећу. Е-регистрација привредних субјеката повлачи разумевање бројних е-инструмената као што су: е-документи, квалификовани е-потпис, е-адреса, корисничке апликације, квалификовани е-временски жиг и други. Оснивачки и други акти могу се сачинити у папирној или електронској форми, па се поставља питање да ли сви документи приликом оснивања друштва могу бити у е-облику и како се е-документ може материјализовати не губећи правну снагу. Још једна од законских обавеза код нас, за нека привредна друштва, јесте и е-евиденција стварних власника. Овим и другим практичним питањима, са којима се сусрећу оснивачи привредних друштава у Србији, бавићемо се у овом раду.

Кључне речи: оснивање привредних друштава, е-регистрација, Агенција за привредне регистре, регулатива, практична питања.

INTRODUCTION

The significance of investments in national economies, as well as their determining factors will not be dealt with in this paper. We will only start from the ascertainment that the investment climate in Serbia is not favourable for a large number of investors, particularly the small ones.¹ Underlying all investment decisions is the tradeoff between risk and expected return (Jones & Jensen, 2019: 9). If the investors, based on the assessment of returns and risks, want to do business in Serbia, the implementation of their investment decision is initiated with the registration in the competent register. The World Bank observes that Serbia made the

¹ This is also confirmed by the EU Progress Report for Serbia 2020, stating that private sector is hampered in Serbia due to weaknesses in the rule of law, judicial inefficiency, corruption being an issue of concern, and unfair competition (<https://www.mei.gov.rs/srp/dokumenta/eu-dokumenta/godisnji-izvestaji-ek>).

procedure of company formation more complicated by requiring them to obtain an e-certificate and register their ultimate beneficial owners separately after the incorporation.² The *purpose of this paper* is to assess the simplicity of procedures for incorporating business entities in Serbia, the scope of presence of traditional and e-procedure registrations, e-registration significance, as well as the effects of legal regulations implementation in e-programmes. Digitalisation of all segments of life has also affected the procedure for business entities incorporation. Interpretation and application of legal regulations get a new dimension when implemented through e-programmes. In other words, digitalisation can facilitate traditional procedures and services, but it can also complicate the application of legal solutions (Mason & Seng, 2017). During the state of emergency, caused by Covid-19, the number of e-registrations for incorporating LTDs and sole traders increased by more than 30% compared to the preceding period³ indicating the significance of e-registrations in general, and particularly under the circumstances of impeded interpersonal communication. The recovery from the coronavirus pandemic provides a unique opportunity for transformation – the innovative retooling needed to thrive in the new, more digital world created by the pandemic (European Investment Bank, 2021). The Business Registers Agency of the RS (BRA) digitalised many of its services. Currently, sole traders and companies with limited liability (LTDs) may register electronically, therefore, a major part of this paper is dedicated to these business entities. Generally viewed, using e-services in Serbia has been proceeding at low pace. The lack of knowledge of digital technologies and ignorance about using e-services are some of the reasons citizens keep using old, lengthy, administrative procedures. Having been accustomed to documents in paper form, many persons avoid e-documents and doubt their legal force. The assessment of simplicity degree of the procedure for incorporating business entities in Serbia, being the basic aim of this paper, will be achieved through: a normative and comparative analysis of regulations in Serbia and the EU; we will go through the incorporation procedure in the BRA; we will point out the most common issues in practice encountered by founders; we will collect data from lawyers who provide such incorporation services; conclusions will be presented on the basis of empirical, normative and theoretical knowledge.

² <https://openknowledge.worldbank.org/bitstream/handle/10986/32436/9781464814402.pdf>

³ <https://www.apr.gov.rs/infografike.4320.html?infoId=26>

LEGAL REGULATIONS

Decision and procedure linked to the incorporation of business entities requires knowledge of many regulations. At the BRA website, 37 laws and 47 by-laws are listed, which are related to its registers.⁴ The legal form of a business entity, business activities that the founders intend to engage with, proprietary structure, material or e-form for the delivery of data etc., determine the application of concrete regulations. The multitude of such legal acts (the so-called “inflation of regulations”) (Vasiljević, 2016: 14), dilemmas related to their interpretation, as well as the obligation that the registration of some data must be conducted electronically, explain the need for using *professional services* (lawyers and other persons) in order to meet all the legal obligations for registering in the BRA, which increases founders’ costs, but saves time. Following this line of reference, we list some of the national regulations. *Companies Law* (2019, CL), represents the legal ground for making decision on the legal form of a legal entity by its founders, which is most suitable to them.⁵ This law regulates the incorporation of legal entities, management, changes in them, and dissolution. Based on the assessment of advantages and risks, founders decide whether they will conduct business as a legal person in the form of: general partnership, limited partnership, limited liability company or joint stock company, or they will do business as a natural person (sole trader)⁶. The procedure for their incorporation depends on this decision. Currently, the number of registered sole traders is twice the number of business companies.⁷ The registration of data on shareholders is performed in compliance with the *Law on the Capital Market* (2020, LCM), while the registration of the members of other business entities in compliance with the Law on Registration. Incorporation, organisation and activities of the BRA are regulated by *Law on Business Registers Agency* (2011, LBRA); while *Law on the Procedure of Registration with the Business Registers Agency* (2019, LPR, orig. ZPR) regulates the registration procedure for data and documents, kept by the BRA. As this law also regulates the possibility of submitting e-applications and e-documents for registration, the *Law on Electronic Document, Electronic Identification and Trust Services in Electronic Business* (2017, LED) is applied. *Law on Certification of Signatures, Manuscripts and Transcripts* (2018) is applied in relation to submitting a registration application and accompanying documents. To any issues not related to the registration procedure, and not specifically

⁴ <https://www.apr.gov.rs/propisi.2426.html>

⁵ See Vasiljević, 2013: 151-408 and Nikolić, Mojašević, 2016: 96-111.

⁶ On special forms of business entities, see Kraakman et al., 2009: 17-18.

⁷ <https://www.apr.gov.rs/infografike.4320.html?infoId=8>

regulated by the LPR (LPR, 2019, art. 4), *General Administrative Procedure Law* (2018) will be applied. Following the incorporation, for the majority of companies, there is an obligation to record their beneficial owners (*Law on the Central Records of Beneficial Owners*, 2019, LBO). The BRA's work is also regulated with the *Law on Public Agencies* (2018). The *Law on Accounting* defines the thresholds for the classification of business entities according to size (micro, small, medium, and large) (Law on Accounting, 2019, art. 6), on which their obligation to prepare and publish financial and other reports depends. In the EC Progress Report on Serbia 2020⁸, the amendments to this Law are positively assessed, in the part where the threshold for defining smaller companies is redefined, decreasing their costs due to exempting them from the obligation of creating specific reports. This report also states the amendments to *Law on Auditing* (2019), which precisely defines the requirements for performing audits. Out of the legal regulations significant for registration in the BRA, we will also mention the *Rulebook on the content of the Business Entities register and documentation required for registration* (2016, hereinafter: Rulebook), as well as the *Decision on fees for registration and other services provided by BRA* (2021, hereinafter: Decision on Fees). After the Decision on Incorporation has been issued, the registered entity opens a commercial account with a bank and has the possibility to use this decision in e-format that is closely regulated with the *Decision on detailed conditions and manner of opening, maintaining and closing current accounts* (2018). Retrieving data in e-format from the BRA is closely regulated with the *Decision on the method, conditions and fees for data retrieval in electronic format on the status and other changes of legal and natural persons registered with the Business Registers Agency* (2011, hereinafter: Decision on e-data retrieval). The EU has common rules in relation to incorporation and registration of business entities, as well as the conditions for publishing any information thereof. Considering Serbia's commitments to the EU, we will recall the EU Directive (Directive EU, 2017)⁹ referring to the registration of business entities.

SERBIAN BUSINESS REGISTERS AGENCIES

The BRA was founded in 2004 (LBRA, 2011, art. 1), with the goal to: have all the registers of business entities kept in one institution; simplify previous incorporation procedures; increase the efficiency of the public administration, not burdening the Budget¹⁰ of the Republic of Serbia, by financing the BRA through the fees for rendered services. The

⁸ https://www.mei.gov.rs/upload/documents/eu_dokumenta/godisnji_izvestaji_ek_o_n_apretku/serbia_report_2020_SR.pdf

⁹ <https://eur-lex.europa.eu/eli/dir/2017/1132/oj>

¹⁰ Any lack of assets in the BRA is provided from the RS Budget (LBRA, 2011, art. 6).

BRA was founded on the basis of the EU recommendations ordering that an agency of this type deals with administrative work, i.e. the registration of business entities and not with any actual control thereof, especially not in the incorporation phase. The control of business operations of registered entities is performed by other institutions dealing with: inspection surveillance, ensuring the observance of agreements, judicial authorities, etc.¹¹ The BRA *keeps different registers* such as unique, centralised, public, electronic databases, as the registers of: *business entities, pledges, financial leasing, associations, financial statements, bankruptcy estate*, etc.¹² The centralised database of registered entities facilitates business decision making, and also facilitates work of the state authorities and institutions. The size and method of paying fees for service users are determined by the BRA Management Board, with the consent of the Government. The fee for the registration of business entity incorporation currently amounts to RSD 4,900 (for the sole trader - RSD 1,500; and for e-registration RSD 1,000), for the registration of status change RSD 5,500 as per the legal entity participating in such a change, for registration data on bankruptcy over a legal entity RSD 10,000 (over a micro legal entity RSD 5,000) (Decision on Fees, 2021, art. 2, 4, 4a, and 7). Reading the Decision on fees for the BRA's services, we observe that there is no sufficiently elaborated difference in fees according to the economic power of business entities. We stated the difference in fees in case of bankruptcy between micro legal entities (they pay half the fee in comparison to larger entities) and larger legal entities (the Rulebook does not specify whether this refers to small, medium or large legal entities), but the other registration fees also lack such solutions.¹³ A register is run by the registrar, a natural person, having significant powers, but also responsible for the legality and security of register keeping. The registrar specifies the manner of keeping the register, adopts a decision on the entry of data and prescribes registration application forms (LBRA, 2011, art. 10a and 10b). The registered data and documents in the BRA are public and available to all people, via the BRA's website. The accuracy of data in the registers is presumed and represents the ground for exercising the right in legal transactions (LPR, 2019, art. 3 items 1 and 2). In practice, registration of data and documents in the BRA is not simplified enough, which will be discussed further.

¹¹ <https://www.apr.gov.rs/o-agenciji.1902.html>

¹² <https://www.apr.gov.rs/o-agenciji/svi-registri-na-jednom-mestu.1905.html>

¹³ *Registration* is the act of entering, changing or deleting data and documents in the registers kept by the BRA (LPR, 2019, art. 2 item 3).

Business Entities Register

The Business Entities Register (hereinafter: the Register) has been kept by the BRA since 2005. The following entities are registered therein: sole proprietors, companies, public enterprises, domestic and foreign company branch offices and foreign company representative offices, as well as other organisation forms in the RS (hereinafter: registered entities) (Rulebook, 2016, art. 2). Numerous data are entered in the Register, some mandatory, and some optional. The most significant data that are registered are: business name; registered seat; date of incorporation; tax identification number (TIN); legal form; predominant business activity; person authorized to represent; basic capital; share capital and shareholder's share and contribution, etc. (Rulebook, 2016, art. 3 and 4). The registration procedure is initiated by submitting a *registration application*; for the incorporation of a company, this is a form (JRPPS/*Integrated Registration Application for the Formation of Legal Entities and Other Entities and Registration in the Unified Register of Taxpayers*); while for the others, the applications can be filed in the form of a written submission.¹⁴ A registration application is filed by the founder, while applications for change or deletion are, by default, filed by the director, i.e. the company's legal representative. In all such cases, the application can also be filed by a proxy.¹⁵ After the incorporation, business entities are obliged to register any relevant changes. Business entities can also publish other data relevant for legal transactions in the Register (Rulebook, 2016, art. 24-53). The obligation to register the liquidation proceedings is of special significance (Rulebook, 2016, art. 57-61). At a party's request, along with a specified fee, the registrar issues excerpts, copies and certificates referring to data and documents from the Register (LPR, 2019, art. 38). Documents and data, which in compliance with Serbian regulations must be registered, are harmonised with those provided for in article 14 of EU Directive, 2017. Article 16 of the Directive prescribes that the member countries are obliged to make all the prescribed data and documents publicly available and that all registered companies have European Unique Identifier (EUID). E-copies of documents and data that the companies are obliged to register in the EU, are available to all the registers in the EU, via the system of interconnection of registers by electronic means (Directive EU, 2017, art. 18).

¹⁴ <https://www.apr.gov.rs/registri/privredna-dru%C5%A1tva/uputstva.2028.html>

¹⁵ <https://www.apr.gov.rs/registri/privredna-drustva/uputstva/opsta-uputstva.2029.html>

FORMATION PROCEDURE

Upon the receipt of an application, the registrar verifies that the registration requirements have been met and issues a decision adopting the application (can also be partly adopted) or rejects it (some shortcomings can be rectified subsequently, with a new application, paying a half of the fee). The registrar is obliged to decide on the application within a 5-business-day period from the date of receiving the application (LPR, 2019, art. 14-19.). The decisions of the registrar are promptly published, as well as the registered data and documents. The registration produces legal effect the date after the publication date. Against the registrar's decision, the applicant may appeal to the competent Minister, through the BRA, within a 30-day period from the date of the decision publication (LPR, 2019, art. 25, 28 and 29). The Minister decides on the appeal within a 30-day period from the day of the receipt thereof. The LPR (2019) did not regulate a Minister's "silence" situation. In this case, the provisions of the Law on Administrative Disputes referring to failure to issue an administrative act by the second instance administrative authority will be applied (Lepetić, 2010, p. 198), i.e. the appeal shall be considered rejected representing the ground for instigating an administrative dispute (Law on Administrative Disputes, 2009, art. 19). The decision of the Minister shall be final and an administrative dispute may be instigated against it. Against the final decision of the Administrative Court, the party and the competent Public Prosecutor may file an application to the Supreme Court of Cassation for reviewing the court decision (LPR, 2019, art. 32). One of the legal means usable in relation to the formation of a legal entity is also the complaint for determining the *validity of incorporation registration*. This complaint may be raised by a party having a legal interest, and believing that: false data are stated in the application, fraudulent documents or documents issued in an illegal procedure or documents containing false facts are used, and other legal reasons. Such lawsuit can be filed within a 30-day limit from the date the plaintiff learned of the reasons for invalidity, and within a year's period from the date of registration at the latest. The registrar is obliged to register the existence of such a dispute for establishing the invalidity of registration. If the invalidity of the registration of a business company has been determined by a legally binding court decision, the procedure for forced liquidation of such company will be instigated (LPR, 2019, art. 33 and 34). The invalidity of incorporation also entails the issue of legal security and trust in the existence of companies participating the legal trade (Jevremović Petrović, 2016: 82). In relation to registering data in the BRA, the criminal offence against any person who submits false data to the Register, or delivers a false or falsified document, is provided for. The subject would face a sentence of three months to five years in prison for such criminal offence (LPR, 2019, art. 45).

FORMATION OF A SOLE TRADER

A sole trader can only be a legally capable natural person (CL, 2019, art. 83). For registration, the sole trader files a single application form for the registration of the incorporation of business entities and other entities and for the registration in the integrated taxpayers' register, supported by a document on identity (Rulebook, 2016, art. 7). After the incorporation, the sole trader is obliged to register all the relevant data linked for their business operations (Rulebook, 2016, art. 21, 22 and 23). Strike-off of a sole trader from the Register can be: at their request (deregistration), by operation of law or in the case of change of legal form. If the sole trader wants to continue business operations in the form of a business company, they concurrently submit an application for the registration of a company (Rulebook, 2016, art. 55 and 56).

E-registration of sole traders has existed in Serbia since 2018. The procedure of e-incorporation will be dealt with on the example of an LTD in more detail later; therefore, in this part, we point out to the dilemmas that sole traders have in the e-registration procedure. Technical conditions, access to databases and the entire e-procedure registration is almost identical for LTDs and sole traders, whereas in the case of the latter, founders are adult natural persons and the e-registration service fee are lower than for an LTD.¹⁶ An e-registration procedure for the incorporation of sole traders is initiated by filing an e-application through the BRA system; and this application may be filed by a future sole trader or their authorised representative (based on a PoA in the e-form bearing the e-signature of the future sole trader). When legal norms become the part of e-programme, the fulfilment of legal requirements gets a new form. Imperfections of the e-programme and non-compliance with the defined manner of data entering can make incorporation and business operations of business entities difficult, in the part linked to their registration in the BRA. The e-applicant must take care about the use of: letters (e.g. Đ or DJ), abbreviations, spelling mistakes, etc. Such a procedure of data entering in the BRA registers is strictly formal and requires identity in stating data in all documents, which are used during registration. In case of e-registering a sole trader, save for the application, all the supporting documents must be in e-format and bear the authorised person's e-signature. When completing an e-application, users have many dilemmas (defining the business name, activity, etc.); therefore, the BRA aiming to provide assistance, published the instructions on their website.¹⁷ After the decision on the incorporation through e-

¹⁶<https://www.apr.gov.rs/usluge/eusluge/eregistracija-osnivanja-preduzetnika.2406.html>

¹⁷ <https://www.apr.gov.rs/usluge/eusluge/eregistracija-osnivanja-preduzetnika.2406.html>

registration has been issued, the sole trader opens a commercial account in a bank. The decision on incorporation does not have to be on paper, it can be delivered in e-form, along with the other documentation, or the bank will obtain the data viewing them directly in the Register or will obtain such data sending a request to the BRA.¹⁸

FORMATION OF COMPANIES

A company is a legal entity acquiring such a capacity through registration in the Register of Business Entities (CL, 2019, art. 3). Members of companies, founders and entities that subsequently join it, may be natural and legal persons. Registration of data and documents of companies and sole traders, prescribed by Companies Law is carried out in accordance with Law on the Procedure of Registration in the BRA (LPR, 2019, art. 5). A registration procedure is initiated by *filing a registration application* in the BRA (it can be *ex officio*, if it is provided for by the Law or is in the public interest) (LPR, 2019, art. 7), electronically or in paper by delivering their written submissions (personally or by post) (LPR, 2019, art. 6), by the authorised person (LPR, 2019, art. 2 items 4, 6 and 12). The application may be filed by: the person authorized to represent the legal entity; the person authorized for the registration and the founder (LPR, 2019, art. 5a). *Data on persons* that must be registered in the BRA are, as follows: *For a national natural person* - personal name and unique identification number of citizens; *for a foreign national* - personal name, passport number and country of issue, i.e. foreigner's personal identification number, i.e. foreigner's identity card number and country of issuance; *for a national legal person* - business name, registered seat and registration number; *for a foreign legal person* - business name, registered seat, number in the foreign registry and the country where it is registered (CL, 2019, art. 9a). Seemingly a clear legal formulation creates dilemmas when applied. So foreign nationals, appearing as founders in the RS, at the very start of incorporation encounter administrative difficulties. Say, *when the founder is a foreign legal person*, establishing their identity can be a problem in practice. An e-extract, as a proof of identity of the founder - a foreign legal person, cannot be used in the registration procedure in the BRA for now. The extract must be on paper, an original or certified copy, and must contain a certification by the competent authority. If the *founder is a foreign natural person*, the dilemma is which identification data to register and if more data can be registered. The BRA's stand is that a foreigner, besides registering their own personal name, optionally can also

¹⁸ Decision on closer conditions and manner of opening, keeping and closing current accounts (2018, item 14, para. 3), as well as the Decision on the manner, conditions and fees for retrieving data in electronic form on any status and other changes of legal and natural persons registered in the Business Registers Agency (2011).

register the personal number for foreigners or optionally can also register the foreigner's personal number along with the number of their foreign ID number (if originating from an EU country). If the foreigner registers more data, an e-certificate is linked to one of them (not stating which one) and if any registered data is changed, possibly the applicant will not be able to sign the specific request¹⁹ electronically. At the occasion of company incorporation, the memorandum of association signed by the company members must be submitted. *Memorandum of Association and Articles of Association* can be drafted in paper or e-form, which determines the manner of their registration. A joint stock company besides the Memorandum of Association also has the Articles of Association (CL, 2019, art. 11). If the Memorandum of Association is submitted in paper form, the signatures are certified in compliance with the law regulating certification of signatures, and if it is an e-document, the certification of documents are replaced by e-signatures of the company members. Companies are obliged by the law to have a separate mailing address and e-address (CL, 2019, art. 20 and 21).

Registration of general partnership and limited partnership may only be performed by filing submissions to the BRA. On the occasion of incorporating these companies, the following is submitted: registration application, certified incorporation agreement, document on members' identities, decision on appointing a representative (if not appointed by the agreement on association), certificate on payment of cash contribution and the assessment of the value of non-cash contribution (Rulebook, 2016, art. 6, 8 and 9). The procedure of *incorporating Joint Stock Companies* (JSC) is more complex compared to other companies. For a JSC registration, besides the registration application, the following should be attached: the memorandum of association of the company with notarial certificate on the payment of cash shares and appraisal of the non-cash capital contribution; decision on the appointment of the company managers, unless appointed in the articles of association; decision on the appointment of the members of the supervisory and executive boards (where a two tier system), unless appointed in the articles of association; and the decision on the appointment of the company's authorized representative, unless appointed in the articles of association (Rulebook, 2016, art. 11). The payment of subscribed cash capital contribution to a JSC will be proved by an attached document (Bank Account Balance Statement²⁰) of the Central Securities Depository and Clearing House (hereinafter: CSDCH) on the subscription of shares. In case of non-cash contributions, in addition to the application and the appraisal of non-cash contributions, the CSDCH document on the subscription of shares will be attached (Rulebook, 2016, art. 46 para 2 and 4).

¹⁹ <https://www.apr.gov.rs/registri/privredna-drustva/pitanja-i-odgovori/pitanja-i-odgovori.4515.html>

²⁰ <http://www.crhov.rs/?Opcija=16>

Incorporation of a Limited Liability Company

The founders of an LTD have had the possibility to opt between the traditional and e-form of incorporation during the preceding three years. Data from practice show that founders are reserved with regard to e-incorporation, therefore, generally the traditional procedure is used, even when founders engage professional persons for registration affairs in the BRA. When founding an LTD company, in addition to the registration application, the following is attached: certified memorandum of association; document on the identity of the company shareholders; decision on the appointment of the authorized representative unless appointed in the memorandum of association; decision on the appointment of the authorized representative unless appointed in the memorandum of association (where a two tier system), unless these persons are appointed in the memorandum of association; bank certificate on the payment of cash contribution, appraisal of the value of the non-cash capital contributions if such a payment is made to the company prior to its incorporation (Rulebook, 2016, art. 10). The data registered for an LTD are the ones referring to an increase/decrease of the company's basic assets, for the purpose of protecting the creditors.

E-registration of an LTD Company. Since 2018, the incorporation of one tier LTD company has been possible electronically, and since 2019, there has also been such a possibility for a multi-member LTD. The *applicant must have* the below listed, if they want to use this possibility: a qualified e-signature, issued by a competent authority in the RS (Serbian Ministry of Interior, Serbian Chamber of Commerce, PC Post of Serbia, etc.); installed e-card reader and NEXU application²¹ for e-signing (with obligatory update); as well as an appropriate card for e-payment of the fee (Visa, MasterCard or Dina). E-registration for incorporation is performed in the system for centralised registering of the BRA users. The first step is to create an account in this system, for first-time users (this account is used for all the BRA e-services). Users can use the instructions provided on the BRA website as assistance when creating the account.²² Persons who already have a user account, can also use it for entering data pertaining to their e-address and password. *E-registration application*²³, filed by

²¹ NEXU application is designed by the BRA and is used by users to create all e-documents, invoices, etc. It can be downloaded from the BRA website free of charge.

²² <https://www.youtube.com/watch?v=lmQz5zSeU4Q>

²³ E-application is filed by completing the e-form if: e-registration fee is paid; application signed with e-signature issued in the territory of the RS; data on a foreigner referred to in the e-signature of the applicant are identical to the data entered in the section, applicant (<https://www.apr.gov.rs/usluge/eusluge/eregistracija-osnivanjanjednoclanog-i-viseclanog-doo.2405.html>).

the future company member or their attorney²⁴, as well as all the documents accompanying it, are signed with e-signature, using NEXU application, which verifies the applicant's identity automatically. Entering the data into e-application demands caution (business name availability and observing the rules on name, harmonisation of data in the application and the Articles of Association²⁵, spelling and orthographic mistakes²⁶, etc.), incorrect data entry into the e-application can result in its rejection. The Memorandum of Association, attached to the e-application, must be in e-form, signed by the company member with e-signature, must be created in the PDF format and not exceeding 15 MB. All the other documents submitted during e-registration must be in e-form (power of attorney, consent, certificate, permit, etc.). For example, a certificate issued by the bank on paid founding contribution must bear e-signature of the authorised person of the bank issuing the certificate. Application used for e-registration of incorporation can also be used for filing the VAT application, as well as for submitting the application for the TIN assignment. In the event of e-incorporation of an LTD company, a *decision on incorporation in a form of e-document* is issued, signed by the authorised registrar with their e-signature. Such an e-decision is forwarded to the e-address referred to in the application and can also be retrieved from the BRA application. Although it is stated on the BRA website that no institution can require a paper form of the e-decision on incorporation, the possibility of filing an application to the BRA for issuing a transcript of the e-decision is indicated, along with the payment of a RSD 1,700 fee.²⁷ In Serbia, e-documents are not treated in the same manner as the ones in paper form.

The majority of registered business companies in Serbia have since 2018 been *obliged to register their beneficial owners* in the Central Records of Beneficial Owners kept by the BRA. A *Beneficial Owner* (LBO, 2019, art. 3.) is a natural person that ultimately owns or controls a registered legal entity, if it is not possible to identify the beneficial owner in any other way, a natural person who is registered as the representative, or registered as a member of a body of that entity will be considered the beneficial owner of a

²⁴ If the applicant of e-application is a future member, they sign the application with their own e-signature. If it is an authorised representative, they sign the application with their own e-signature, and the power of attorney must be attached in a form of e-document (signed by the future company member with their own signature) (<https://www.apr.gov.rs/usluge/eusluge/eregistracija-osnivanja-jednoclanog-i-viseclanog-doo.2405.html>).

²⁵ For example, Limited Liability Company is stated in the application and LTD in the act. Such discrepancy is the reason for rejecting the application.

²⁶ Application data are registered in the manner entered by the applicant.

²⁷ <https://www.apr.gov.rs/usluge/eusluge/eregistracija-osnivanja-jednoclanog-i-viseclanog-doo.2405.html>.

registered entity. The listed below entities have the obligation to record beneficial owners within a 15-day period: all business companies, companies in liquidation, branch offices of foreign companies, business associations, institutions, representative offices of foreign companies, etc. The listed below entities have no such obligation: sole traders, public JSCs, companies in bankruptcy, companies and institutions where the RS (a province or a local self-government unit) is the only member and others (LBO, 2019, art. 2 and 7). Recording beneficial owners is done exclusively by e-mail. The founders who had, but avoided, the possibility of incorporation electronically, are obliged to fulfil this obligation in e-form, meaning they must meet all the requirements requested for e-registration (opening an account in the BRA, e-signature, e-card reader, NEXU application). Numerous manuals and instructions available on the BRA website prove that performing this legal obligation is not simple. For searching the Records of Beneficial Owners, an account created in the BRA User System is necessary, and the search is conducted using the registration code.

CONCLUSION

Entering data in the BRA registers is strictly formal and requires identity in stating data in all the documents used during registration. In the national BRA, there is no clear distinction in using traditional registration procedures and e-procedures. Persons who would rather use e-services only cannot do it; on the other hand, persons inclined to traditional procedures must implement a part of obligations electronically. Say, a person registered electronically changes any later changes to registered data (members, shares, capital, etc.) exclusively by filing registration application which has to be mailed to the BRA or delivered personally. On the other hand, the registration of beneficial owners of business companies, and the later changes thereof, as well as registration of financial statements, are done electronically exclusively. Data from practice²⁸ show that the founders mainly engage lawyers for the purpose of incorporation (even then the traditional procedure is mainly used), due to numerous formalities following this process, starting from the content of the memorandum of association to completing registration applications (preparation of documents and the registration itself, taking approximately 15 days). The BRA may reject registration applications for the slightest error, though. Problems also occur after incorporation, when opening business accounts with banks, particularly if the founder is a foreign legal person (every bank has its own requirements). As far as the costs are concerned, the fee of the BRA amounts to RSD 4,900 for legal entities, plus

²⁸ Information from the BRA and a number of lawyers' offices.

RSD 1,000 for publishing the memorandum of association and the notarisation of signatures on the memorandum of association, equalling RSD 360 per signature. Additional costs can occur when the founder of a company in Serbia is a foreign person, then the extracts from the foreign register of business companies need to be translated into Serbian. Regarding the fees for legal services, the price of drafting a memorandum of association amounts approximately to RSD 30,000²⁹ or for some more complex acts, the service of registration itself amounts from EUR 100 to EUR 150. Because of the significance of contractual regulation of relationships among company members (Kraakman et al., 2009: 19), particularly when one of the members is a foreign person, the founders may bear significant costs for having such contract drafted by a lawyer. If an economic entity ceases to exist, the procedure for its deletion from the Register takes somewhat longer, given the commitments undertaken in legal transactions. Say, striking-off an LTD company from the Register in a liquidation procedure takes approximately 6 months. Based on all the aforementioned, we may conclude that a significant advancement is made in Serbia in stimulating e-incorporation of legal entities; however, in the future period, further efforts in the simplification of the incorporation procedure should be made (by using less formal and more operational e-programmes) and the e-registration of other data documents kept by the BRA should be enabled.

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²⁹ https://www.paragraf.rs/propisi_download/advokatska_tarifa_tabelarni_prikaz_nagrada_sa_zapocetim_satom.pdf

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ОСНИВАЊЕ ПРИВРЕДНИХ ДРУШТАВА У СРБИЈИ – ЗАСТУПЉЕНОСТ ЕЛЕКТРОНСКЕ И ТРАДИЦИОНАЛНЕ ПРОЦЕДУРЕ

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Резиме

Унос података у регистре АПР-а строго је формалан а домаћи оснивачи привредних друштава немају могућност да се одлуче искључиво за традиционалну или електронску процедуру регистрације. Лица која би радо користила само е-услуге АПР-а то нису у могућности, са друге стране лица која су наклоњена традиционалним процедурама део обавеза морају реализовати е-путем. Рецимо, лице регистровано е-путем касније промене регистрованих података (чланова, удела, капитала и сл.) мењају искључиво подношењем регистрационих пријава које се шаљу АПР-у поштом или предају лично. Са друге стране, регистрација стварних власника привредних субјеката, и њихове касније промене, као и регистрација финансијских извештаја, врше се искључиво е-путем. Подаци из праксе показују да оснивачи углавном ангажују адвокате за потребе оснивања, због бројних формалности које прате овај процес, почев од садржине оснивачког акта па до попуњавања регистрационих пријава. АПР одбацује регистрационе пријаве и због најмање грешке. Проблеми настају и након оснивања, приликом отварања пословних рачуна код банака, посебно ако је оснивач страном правно лице (свака банка има своје захтеве). Што се трошкова оснивања тиче, накнада АПР-у тренутно нису високе али додатни трошкови могу настати када је оснивач привредног друштва у Србији страном лице, тада је потребно легализовати и превести на српски језик изводе из страног регистра привредних субјеката. Оснивачи имају и трошкове у виду накнада за адвокатске услуге у вези са израдом оснивачког акта као и услуге регистрације. Због значаја уговорног регулисања односа између чланова друштва, посебно када је неко од чланова страном лице, оснивачи могу имати значајан издатак за сачињавање овог уговора код адвоката. Уколико дође до престанка постојања привредног субјекта, процедура брисања из Регистра траје нешто дуже, с обзиром на преузете обавезе у правном промету. На основу свега реченог, можемо закључити, да је у Србији учињен значајан помак у стимулисању е-оснивања привредних субјеката али да у будућем периоду ваља радити на поједностављивању процедуре оснивања (употребом мање формалних и оперативнијих е-програма) и омогућити е-регистрацију и других података и докумената који се у АПР-у воде.

BUILDING THE EUROPEAN MECHANISM FOR COMBATING HUMAN TRAFFICKING - A SYSTEM APPROACH

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Abstract

The paper deals with combating human trafficking in the European area, while respecting the dialectical unity of theory and practice, applying the principles and logic of a system approach. The European mechanism for combating human trafficking, as a regional instrument, was created out of a need to combat human trafficking in an organized and multidisciplinary manner, which has become a serious problem in Europe. Building an effective, comprehensive and multidisciplinary mechanism is based on the greater application of the scientific approach, the harmonization of legal systems and concerted action of states, thereby achieving a synergistic effect. The European mechanism is seen as a complex, open, dynamic and stochastic organizational system, incorporating all European countries (except Russia) as components. Its functioning has achieved a more balanced approach of European countries to the problem and a more coherent operation of national mechanisms. The poly-centricity of the system originated as a consequence of the simultaneous action of the three governing units (the Council of Europe, the European Union, and the OSCE) on national mechanisms, and their lack of coordination complicates the position of the national mechanisms.

Key words: combating human trafficking, European mechanism, national mechanisms, system approach, synergistic effect

ИЗГРАДЊА ЕВРОПСКОГ МЕХАНИЗМА ЗА БОРБУ ПРОТИВ ТРГОВИНЕ ЉУДИМА – СИСТЕМСКИ ПРИСТУП

Апстракт

У раду се разматра супротстављање трговини људима на европском простору, уз уважавање дијалектичког јединства теорије и праксе, применом начела и логике системског приступа. Европски механизам за борбу против трговине љу-

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дима, као регионални инструмент, створен је из потребе да се приступи организованом и мултидисциплинарном супротстављању трговини људима која је постала озбиљан проблем у Европи. Изградња ефективног, целовитог и мултидисциплинарног механизма заснива се на већој примени научног приступа, хармонизацији правних система и усаглашеном деловању држава, чиме се постиже синергијски ефекат. Европски механизам се разматра као комплексан, отворен, динамичан и стохастичан организациони систем у који су, као компоненте, укључене све државе Европе (осим Русије). Његовим функционисањем постигнут је уједначенији приступ европских држава проблему и усклађеније деловање националних механизма. Полицентричност система, настала као последица истовременог деловања три управљачке јединице (Савет Европе, Европска унија и ОЕБС) на националне механизме и њихова недовољна координација, усложњава положај националних механизма.

Кључне речи: борба против трговине људима, Европски механизам, национални механизми, системски приступ, синергијски ефекат.

INTRODUCTION

In the conditions of globalization (the centralization of resource management on the planet Earth) and the existence of world problems such as poverty, hunger, widespread discrimination on various grounds, wars and similar negative social phenomena, the world is faced with increasing crime, where *human trafficking* (*trafficking in human beings; trafficking in persons*) is singled out by its unscrupulousness. Human trafficking has become a worldwide phenomenon in recent decades, among other things due to the adequate logistics it supports, and it is one of the most serious forms of human rights violations and a highly profitable form of crime. It affects all countries in the world, both those in transition and developed, as countries of origin, transit and/or destination countries. The spread of human trafficking has brought this phenomenon into the focus of interest of scientists, researchers, international organizations and countries, primarily for the protection of the common goods, that is, for the prevention, direction, and control of this phenomenon and the assistance and protection of victims. The interest of the community for human trafficking in the late 20th century, at the global level, led to the cooperation of states and the adoption of an international agreement - the *Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children* (UN Protocol), adopted in 2000 as a supplementary protocol to the *Convention against Transnational Organized Crime* (UN Convention) (UNODC, 2000).

The severity of the problems at the global level can be seen from the data of international organizations (although there are significant differences in defining victims according to forms of exploitation). The United Nations Office on Drugs and Crime (UNODC) has collected data, for the period 2003-2016, on about 225 thousand victims detected worldwide, most of them in 2016 - over 24.000 (UNODC, 2018: 7). The data

points to the need for continuous upgrading of existing mechanisms for combating human trafficking (CHT) on global, regional and national levels to increase their effectiveness and efficiency.

As human trafficking is a complex and dynamic social phenomenon, combating it requires an adequate approach based on the dialectical unity of theory and practice. General system(s) theory (GST), a system approach as a methodological approach to scientific research and system(s) analysis as a methodological procedure, provides a good basis for critically scanning existing systems and designing new systems for CHT. The paper is an attempt to, using the systems analysis, perceive the basic functioning of the existing regional mechanism for CHT in Europe, that is, the *European mechanism for CHT* (EM)¹ as a system. The system developed for CHT must follow actors of this process (with characteristic phases, events, and subjects) throughout the “whole life cycle,” throughout the flow (from origin to destination) and through the quality of measures, activities, and procedures that achieve victory in CHT and increase the utility degree of “consequences of victory.”

The paper considers the existing EM as a complex, open, stochastic and dynamic organizational system through the analysis of goals, functions, structure, governing components and feedbacks, as well as the application of multidisciplinary in its construction. EM was built as a hierarchical and monocentric system based on the *Council of Europe Convention on Action against Trafficking in Human Beings* (CoE Convention) (CoE, 2005). With the development and increased engagement of OSCE and EU institutions on CHT, two new governance units were created, giving EM the hallmarks of a system with polycentric governance. The harmonized policies and efforts of the states have strengthened the capacities and improved the quality of national mechanisms for CHT (NM). Integration into EM, due to dynamic interactions in the system, created a new quality of NMs, achieved a more homogeneous treatment, coordinated action and fulfilled the preconditions for the mechanism to accomplish greater effects (synergy of the system)². Further qualitative and quantitative strengthening of the EU institutions and the commitment

¹ The term *European mechanism* is not in the official use of the Council of Europe and the European Union; it is introduced for the purpose of this paper to cover all relevant anti-trafficking subjects in Europe.

² *System synergy* is a complex joint action of system components within the whole when the system properties do not originate from the nature of the components but are the result of the dynamics of the interconnections of the components within the system, which gives the possibility of achieving a synergistic effect. A *synergistic effect* is an occurrence when, by the functioning of the system as a whole, is achieved greater effects than the sum of the effects of all the components, viewed separately; it comes from new quality - *emergent properties* of components when they become part of a larger system.

of States to build the NMs, creates conditions for upgrading the existing system and managing processes more efficiently.

HUMAN TRAFFICKING AND SYSTEM APPROACH TO AN ORGANIZATION

Human trafficking. After the 1980s, interest in human trafficking was intensified by various factors, such as the strengthening of feminist movements, public, government, and international organization's concerns about the exploitation of women, as well as Western and international media and people's concerns about migratory flows from underdeveloped countries. In order to provide interdisciplinary theoretical and empirical analyses and create the necessary measures to combat human trafficking, there was a need to engage experts in various scientific fields. The necessity of a system and multidisciplinary study of the phenomenon and its connections with the problems of economic, social, legal and political nature was noted, as well as the need to apply multidisciplinary in the construction of counteraction mechanisms, which should include measures of prevention and protection of victims and repression.

With the aim of developing a new response to international human trafficking, offering guidelines to states for adoption of national strategies and laws, and assisting them in building national institutions for CHT, the *UN Protocol* has emerged. Among other things, the Protocol contains a broader definition of human trafficking, providing the base for further study of this social phenomenon in contemporary conditions. According to the Protocol, "*trafficking in persons* shall mean the recruitment, transportation, transfer, harbouring or receipt of persons, by means of the threat or use of force or other forms of coercion, of abduction, of fraud, of deception, of the abuse of power or of a position of vulnerability or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purpose of exploitation. Exploitation shall include, at a minimum, the exploitation of the prostitution of others or other forms of sexual exploitation, forced labour or services, slavery or practices similar to slavery, servitude or the removal of organs" (UNODC, 2000: art. 3). Human trafficking is also considered to be any act mentioned in the previous definition (recruitment, transportation or other action), even if there is the victim's consent to the intended exploitation if any of the mentioned means was used (threat of force, use of force or other means). In the case of children as victims (according to the Protocol these are persons under the age of 18), trafficking is also considered to be the recruitment, transportation, transfer, harbouring or receipt of a child for the purpose of exploitation, regardless of whether or not any of the means set forth have been used (coercion, fraud, abuse of power or other) (UNODC, 2000: art. 3). The definition has been

taken up in its entirety in the CoE Convention, and the *EU Directive on preventing and combating trafficking in human beings and protecting its victims* (EU Directive) (EU, 2011: art. 2), with a little extension of the exploitation forms (EU, 2011: art. 2).

Due to the complexity of human trafficking, it is presented by definition as a process, not as an event or one crime. The complexity of the phenomenon originates from the interactions between supply and demand, the multiple stages through which victims go and the linkage of a variety of factors such as different crimes, a large number of different perpetrators, forms of exploitation, geographical locations and many environmental factors (social, economic, cultural and other). In a broader context, the complexity of CHT is also influenced by a large number of law enforcers and prosecution authorities, government and non-government agencies, civil society organizations, social institutions, and other actors in CHT and victim's protection.

System approach. At the basis of GST is the idea that different physical and social phenomena can be considered as wholes (holism) or systems, and the focus of theory lies in the interactions between the components of system and system with the environment. The basic term of GST is the system, and it has many definitions that are conditioned by the ambiance and position of one dealing with system theory (Bailey, 1970; Churchman, 1986; Morgan, 2005; Mele, Pels & Polese, 2010). Most definitions have in common that: a system is created to accomplish an assigned mission and achieve certain goals through the accomplishment of tasks; a system is composed of (interconnected) elements or components that make up the whole and interact (direction, intensity, features); the system transforms input resources into output resources (process results) through internal processes.

System approach, as a methodological and conceptual apparatus for treating phenomena and processes, has become one of the most used in the process of improving organizations and management. The starting point for applying a system approach to organizational systems³ (organizations) is in the multidisciplinary analysis of the organization as a whole. Organizations are typically complex, stochastic, dynamic, and open systems, and they contain a large number of interconnected components and interact with elements of the environment. They are in a constant process of change and require active governing, and their behavior in the future is difficult to predict. The basic characteristics of organizational systems are

³ Organizational systems are designed on the basis of principles of objective and principles of constitution (functional and structural), work organization principles (collective and individual) and workplace organization principles (Andrejić i Milenkov, 2019: 127-128, 142-143).

goal(s), functions, processes, structure, boundaries, environment, interactions, and connections.

Organizational goals (objectives) are values to be achieved or preserved, and the achieved results of the organization represent the degree of goal's achievement. Some goals of the organization may be conflicting, and their relationship is resolved through the optimization of the desired results. According to the defining actors, system goals can be adopted, assigned, or a combination of them.

Organizational structure is the basis for achieving the projected goals; it is made up of components (elements and/or subsystems) and their relationships, with assigned roles, jobs, and tasks, which they execute in accordance with norms, rules, and restrictions. The structure is a source of dynamic interactions with the supra-system and within the system - between its belonging components among which hierarchical relationships⁴ are built. Among the components, the most important is the governing component - the unit (decision-maker, individual or group), as dominant and responsible for the system functioning which, through the hierarchical links, provides the mono-centricity of the system. With the advent of multiple governing units at the top of the system, or in its subsystems, the system tends to poly-centricity as a non-hierarchical set of interactions between actors and without a dominant central authority⁵ (Morrison et al., 2017: 2). Possible discontinuities in the organization structure between different levels of management and cross-functional discontinuities, weaken the organization structure, creating a series of isolated operational islands, especially in the absence of a unique governing. Opportunities for improving organizations are, precisely, between these operational islands and are reflected primarily in establishing better communication between them.

Organizational environment is composed of all external factors that affect the state of the organization (and the organization affects the state of the elements of the environment). The subjects of the environment are not only physical and topological, but primarily functional, behavioral,

⁴ *Hierarchy* is a term that describes the structuring of a system in ranked order of components, according to levels of importance of each component. Component relationships are arranged such that the component(s) at a lower level is to some degree subordinated to a higher-level component. The existence of a unique governing (one governing component) ensures a certain degree of system centralization (monocentric system).

⁵ A *polycentric governance system* consists of several formally independent autonomous units, whose autonomy implies that they act independently and without centralized coordination, and that they make decisions through processes of cooperation, competition, conflict and conflict resolution (Ostrom, 1999: 225). When there is an overlap of strategies and international institutions in one area, the effectiveness of complex governance depends on the cooperation of those governing institutions.

and communicational (Cilliers, 2001: 5); they are other systems, events, processes, space, time, legal instruments, and others. The permeable system boundaries allow the system to obtain the necessary input resources (information, finances, material, etc.) and to get output resources at the system's exit, as a consequence of the processes in the system (information, products, or other resources). System *input* means any action directed at the system, and system *output* - any action that originates from the system (Kast & Rosenzweig, 1972: 450). Information about the processes in the system and the achieved effects on the output, represents *feedback* and provides a new influence on the system through input changes to correct the process and achieve projected results. The concept of feedback is generally defined as part of a system (Skytter, 2005: 87-89), but external influences (elements of the environment) usually occur affecting the system inputs and changing its state, by modifying the outputs.

THE EUROPEAN MECHANISM FOR COMBATING HUMAN TRAFFICKING AS AN ORGANIZATIONAL SYSTEM

The renewed interest in human trafficking at the end of the last century initiated the creation of regional instruments for CHT, in addition to the global ones. The EM was created to address organized and multidisciplinary combat against human trafficking in Europe. This requires special efforts and skills, actors of different knowledge and fields of work (law enforcement, judiciary, social and health care, civil society, and media) and their coordination. Most countries in Europe, at the end of the 20th century, were unable to efficiently combat human trafficking in their territory or the problem was treated as less important. The lack of harmonization between the legal systems of states or even the refusal of individual states to acknowledge the existence of trafficking (Savona & Stefanizzi, 2007: 2) hindered the adequate response and cooperation of states in solving this problem.

Normative Framework and Objectives of Building the European Mechanism

The first step in creating a unified and comprehensive system - the mechanism for CHT in Europe - was the adoption of the CoE Convention in 2005. The Convention upgrades on existing international instruments, primarily on the UN Protocol, but also exceeds accepted standards and introduces additional measures for the protection of victims. It has been ratified by all European countries except Russia (28 EU members and 19 non-members), committing themselves to regulate this area in national legislations and to build NMs as components of EM. The Convention, as a binding instrument, provides the so-called 'hard law', establishes a monitoring system and the possibility of holding each member state ac-

countable for default on commitments (Piotrowicz, 2017: 41). An important document for the construction of the mechanism is also the EU Directive as a binding instrument for the EU member states as well as for the state signatories to the EU association agreements. The Directive adopts an integrated and holistic approach to CHT based on human rights and includes actions in third countries (countries of origin and transit of victims) (EU, 2011: 1). The EU oversees the implementation of CHT instruments through its bodies, but also provides financial and other assistance to countries to strengthen NMs.

The overall objective of EM creation⁶ is not only legislative measures but also the totality of multidisciplinary measures and activities covering the prevention of human trafficking and victim assistance and protection. The subsystem of objectives includes: preventing and combating human trafficking; protecting and assisting victims and witnesses; ensuring effective investigation and prosecution of perpetrators; and, the promotion of international cooperation (CoE, 2005: 1), indicating the application of a multidisciplinary and holistic approach in defining them. Due to the existence of more relevant objectives, the adopted strategy for CHT endeavored to ensure a balance between criminalization, the investigation's efficiency and human rights protection, including the gender equality of victims. To a large extent, the EM objectives subsystem has been designed for states as the carriers of primary activities for establishing and/or strengthening policies and programs for CHT (CoE, 2005). On this basis, states have defined obligations to establish and upgrade NMs in accordance with real needs.

Boundaries and Environment of the European Mechanism

Between the structure, boundaries, and environment of the mechanism, there is a direct interdependence and conditionality. The EM structure includes organizational components (CoE, EU and OSCE bodies, NGOs, and countries - NMs), their links and relationships (formal and informal) and related regulations, and the system boundaries and environment are determined in relation to it. To define the environment, a combination of two basic concepts was applied in the paper: an objective and an enacted environment (Mele et al., 2010: 130-131). *The objective environment* (elements are material entities) comprises all non-member countries of the CoE Convention, that is, the system as basic components contains countries located geographically on the European continent; it is

⁶ The objectives of the EM have been adopted within the CoE Convention and the objectives of the NMs have been assigned in part by the CoE Convention ratification and partly are adopted according to real threats and needs in national contexts and they are changeable over time.

significant because some countries of the environment are countries of origin and/or transit of a large number of victims. *The enacted environment* of the mechanism includes legal instruments and institutions with which the mechanism interacts, regardless of geographical space. The most important elements of an enacted environment are international regimes (e.g. Universal Declaration of Human Rights, UN Convention, UN Protocol), international institutions (e.g. UNODC, UNHCR, UN.GIFT, ICAT, ILO), NGOs, the private sector, as well as the political, economic and cultural environment. The combined approach of defining the environment places EM and the Member States (NMs) in a set of international relations with countries outside Europe and in defined and accepted relations with international organizations and agencies relevant for CHT, in accordance with applicable international legal instruments.

In defining the environment and/or boundaries of the mechanism, particular consideration should be given to the place of human trafficking as a process, that is, whether trafficking is part of the mechanism or its environment, with answers to the questions: is trafficking relevant to the mechanism and whether it is under its control. Human trafficking is significant for EM, as it is the sole reason for its organization, but the mechanism does not have control over the processes and different systems of trafficking, which means that trafficking is not a component of EM. However, the mechanism has control over individual segments, i.e. victims or potential victims, who are identified and who are given assistance and protection, as well as the traffickers identified and put under control by law enforcement and judicial authorities. Therefore, trafficking can only be seen as a process that is outside the mechanism and is also an input into the mechanism, either as information on human trafficking flows or as identified victims and traffickers available to the subjects of the mechanism.

THE STRUCTURE AND THE FUNCTIONING OF THE EUROPEAN MECHANISM

The structure of the EM cannot be viewed only within the system established under the CoE Convention, as the real mechanism is also made up of bodies formed within the EU and the OSCE, with which states and NMs interact in parallel. The most important components of EM (Figure 1), in addition to countries, civil society organizations and private sector partners, according to governing function holders, are:

Council of Europe:

- *Committee of the Parties* – the political body composed of member states' representatives of the CoE Convention (CoE, 2005: art. 37);
- *Group of Experts on Action against Trafficking in Human Beings (GRETA)* – a multidisciplinary technical body of the CoE, with the mandate

to monitor and evaluate the implementation of the CoE Convention (CoE, 2005: art. 36);

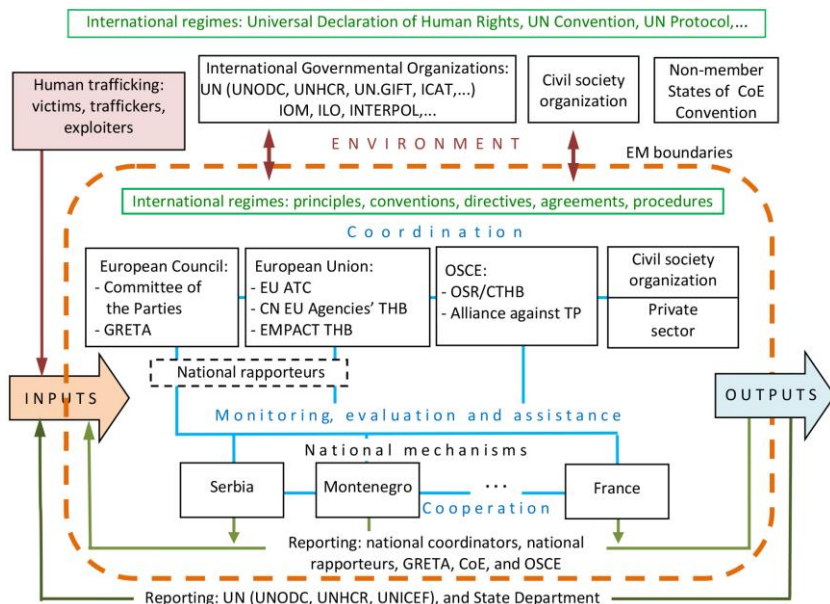


Figure 1. European mechanism for CHT as a system

European Union:

- *EU Anti-Trafficking Coordinator (EU ATC)* – responsible for coordination and coherence between EU institutions and agencies, Member States, international actors, and development of EU policies for CHT (EC, 2019);

- *European Multidisciplinary Platform Against Criminal Threats – Trafficking in Human Beings (EMPACT THB)* designed to combat organized and serious crime in the field of human trafficking and to strengthen cooperation between relevant services of EU countries, institutions and agencies, as well as third countries (Europol, 2019);

- *Coordination Network of the EU Agencies' contact points on THB (CN EU Agencies' THB)* – formed from ten EU agencies relevant for CHT in the domain of police, justice, asylum, and others, committed to work together in CHT (EC, 2019);

- *Civil society organizations* – The basic platforms that associate organizations from Europe and other regions are the *EU Civil Society Platform against THB* and *ePlatform against THB* (EC, 2019);

Organization for Security and Co-operation in Europe:

- *Office of the Special Representative and Co-ordinator for Combating Trafficking in Human Beings (OSR/CTHB)* represents the OSCE,

coordinates the work of OSCE structures and institutions and assists Member States (OSCE, 2019);

- *Alliance against Trafficking in Persons* is a broad international forum, under OSCE mandate, involving international, non-governmental and inter-governmental organizations for CHT (OSCE, 2020).

States - national mechanisms. The results of the organizational system are achieved (or not achieved) horizontally (cross-functional), not hierarchically. Therefore, in the EM the focus must be on the horizontal dimension, i.e. that NMs efficiently carry out the projected activities and cooperate. NMs as components of EM have different structures, depending on economic development, organizational level of the police and judicial system, social protection level, care for human rights and others.

The functioning of the EM is based on the international regimes (principles, norms, and procedures) contained in conventions, agreements, recommendations, and on national levels - on national laws and procedures. The main subjects of the mechanism established under the CoE Convention were the States (NMs) and the CoE institutions (Committee of the Parties and GRETA) as the unique governing component of the system. That defined the mechanism as mostly a monocentric system, especially in relation to non-EU countries. With the strengthening of EU institutions and the more active role of the OSCE, the mechanism has increasingly taken on the characteristics of a polycentric complex system. In such circumstances, mechanism governing is characterized by a combination of autonomous behavior and flexible interrelationships of governing components, although the system was originally designed as hierarchical and monocentric. The negative consequences of polycentric governance are diminished by the unity of the projected goals and the great overlap between the CoE, EU and OSCE CHT strategies, as well as the enviable level of construction and efficiency of NMs in most countries. There is a need for greater cooperation, coordination of policies and activities of states and the governance function holders. However, for this activity there is no official body (such as ICAT in the UN), nor is it assigned to any of the existing coordinators or GRETA.

According to the GRETA report, CHT is one of the priority areas of co-operation between the CoE and the OSCE, but co-operation “which has continued to strengthen” is mainly based on participation in conferences and other events organized by one of these institutions, the coordination of working visits states and collecting data on NMs functioning (CoE, 2019: 34). The cooperation between GRETA and the EU bodies is based only on individual exchanges of experience and opinions on some current topics such as the structures of organized crime groups or the role of civil society actors in the CHT (CoE, 2019: 34). Such individual events do not represent the cooperation necessary for the efficient governing and development of EM, given the scale of human trafficking and the new

methods and technologies applied by traffickers. For example, no report mentions the joint work of expert teams and other activities to refine CHT strategies and policies or the impact of a complex governance mechanism on NMs. Conditionally seen, these interrelationships of governing units create three hierarchically structured systems with common components – NMs, and generally unique goals, which negatively affects the effectiveness of NMs due to multi-party engagement and increased administration.

Intrinsic and extrinsic feedback, as an incentive for maintaining the stability and efficiency of the system, is provided by reports of national coordinators and rapporteurs and monitoring by GRETA, the EC, the OSCE, and the State Department. The results of the mechanism's functioning, as an output from the system, can be used to assess efficiency and effectiveness of EM and NMs, based on indicators of financial and human resources, identified and cared victims, the importance of interrupted flows of trafficking, identified and sanctioned traffickers and others. In the available official acts of the CoE, EU or OSCE, the evaluations of the overall efforts of EM are mostly generalized, while assessments of the functioning of the NMs, as well as recommendations for their further development, are more detailed. According to the EC and State Department ratings for 2018, most states in Europe have made progress over the previous period in shaping their NMs and implementing measures for CHT. The basic failures of NMs' functioning lie in the impunity of traffickers and the identification of victims and their limited access to rights of protection, compensation, and non-impunity (EC, 2018; Department of State, 2019).

CONCLUSION

Human trafficking has become an international problem that is burdensome for all states, which has prompted societies to launch various initiatives to prevent, direct, control and eradicate this negative complex phenomenon. An adequate response to the increased scope of human trafficking at the world level is based on the 2000 UN Convention and the Supplementary Protocol. The most significant step at the regional level - in Europe, was made in 2005 with the adoption of the CoE Convention and its ratification by European states, which shaped the multi-year initiative of European states and international organizations to work together in CHT. The CoE Convention and the subsequent EU Directive adopted an integrated and holistic approach in CHT, as a basis for the organization of EM, harmonization of national legislation, and the construction of NMs. From the aspect of general system theory, it can be concluded that a set of conventions, directives, agreements, national laws, protocols, and procedures, existing European subjects and national bodies and institutions, involved civil society organizations and the private sector for CHT, and their relations, constitute a unique organizational system.

The European mechanism is designed to enable multidisciplinary identification, definition, and implementation of measures, activities, and procedures, related to trafficking in the domain of criminal law, active prevention of trafficking, assistance to victims, and their protection. It provides a unique approach to the content of combating human trafficking on national levels, the extension of national legislation and mechanisms. The Mechanism promoted cooperation among the states and made progress within the law enforcement and judicial authorities in combating human trafficking when it has an organized and transnational character.

The existence of three governing units in the mechanism (CoE, EU, OSCE) makes it an imperfect organizational system and requires greater cooperation and better coordination of policies and activities among them, especially due to the lack of a unique coordinating body. From the point of view of NMs, due to monitoring, evaluation and obligations toward more governing subjects, the interactions of NMs with these units are complex for all European countries, less for members, and more for non-members and candidates for EU accession. In the absence of the necessary level of coordination of the governing units, their relationship must be directed at expanding cooperation and building a common strategy, norms, rules, and decision-making principles. However, the unity of the NMs' objectives and the EM's government units reduce the negative impacts on the execution of the projected EM's mission. Strengthening EU institutions, establishing co-operation with third countries in the field of justice and police, as well as financial and other assistance to countries to upgrade NMs, strengthens EU interactions with the Member States and non-member countries, making EU institutions for CHT a potentially dominant component of the mechanism.

Although no accessible document can be extracted assessing the effectiveness and efficiency of the overall mechanism, partial data such as the number of reported, identified, and cared victims, the number of convicted persons or NMs' ratings, show significant progress in the functioning of the mechanism. According to the State Department, as an independent institution, most European countries fully meet the minimum standards required for CHT or their governments make significant efforts to reach those standards.

The needs of the practice, the demands of time and contemporary trends in science and operational practice indicate the need for a multidisciplinary approach and holism in the studies of phenomena, processes, and systems; general system theory, especially system approach as its methodological procedure, are well suited for this purpose. Significant improvements in existing solutions or in the design of new ones can be achieved by respecting the unity of matter, information and measure, as this provides complete knowledge as opposed to fragmentary and factually knowledge that creates a kaleidoscopic picture of objective reality.

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ИЗГРАДЊА ЕВРОПСКОГ МЕХАНИЗМА ЗА БОРБУ ПРОТИВ ТРГОВИНЕ ЉУДИМА – СИСТЕМСКИ ПРИСТУП

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Резиме

Трговина људима, према опште прихваћеној дефиницији из Протокола УН (2000), је сложен процес који се састоји од радње (врбовање жртава и др.), средства (употреба силе и др.) и сврхе (експлоатација проституције и др.). Сложеност појаве захтева адекватан приступ супротстављању заснованом на дијалектичком јединству теорије и праксе. Са циљем мултидисциплинарног одговора на трговину људима у Европи, развијен је регионални механизам – Европски механизам за борбу против трговине људима, на основу Конвенције Савета Европе о борби против трговине људима (2005) и Директиве ЕУ о спречавању и сузбијању трговине људима и заштити њених жртава (2011). Изградња ефективног, целовитог и мултидисциплинарног механизма заснована је на већој примени научног приступа, хармонизацији правних система и усаглашеном деловању држава, чиме се постиже синергијски ефекат.

Системски приступ као методолошки приступ и системска анализа као методолошки поступак, пружају добре могућности за системско скенирање механизма. Европски механизам се разматра као комплексан, отворен, динамичан и стохастичан организациони систем, у који су, као компоненте, имплементиране све државе Европе (осим Русије), са циљем анализе његових основних параметара: циљева, структуре и окружења, као и функционисања. Општи циљ механизма је доношење и примена мултидисциплинарних мера, активности и поступака (процедура) које се односе на трговину људима, у домену кривичног права, активног спречавања трговине људима, помоћи жртвама и њихове заштите. Структуру механизма сачињавају органи Савета Европе, ОЕБС и ЕУ, национални механизми европских држава, организације цивилног друштва и приватни сектор и њихове везе и односи. Пропусне границе система омогућавају интеракције са окружењем које чине неевропске државе и инструменти и институције са којима је механизам у интеракцији, без обзира на географску локацију. Трговина људима као појава због које механизам постоји је део окружења, осим идентификованих жртава и трговаца који су под контролом механизма.

Са аспекта опште теорије система, може се закључити да скуп конвенција, директива, споразума, националних закона, протокола и процедура, постојећи европски субјекти и национални органи и институције, ангажоване организације цивилног друштва и приватни сектор и њихови односи, представљају јединствен организациони систем. Механизам је изграђиван као моноцентричан систем са органима Савета Европе као јединственом управљачком јединицом и са хијерархијским односима према националним механизмима. Током времена и јачањем институција ЕУ и ОЕБС, механизам је попримао карактеристике сложеног система са полицентричним управљањем које одликује комбинација аутономног понашања и флексибилних међусобних односа управљачких компоненти. Овакав систем захтева висок степен сарадње, координације политика и активности носилаца управљачке функције што, према доступним извештајима, није постигнуто у механизму. Негативне последице полицентричног управљања умањене су јединством пројектованих циљева и великим преклапањем стратегија Савета Европе, ЕУ и ОЕБС, као и завидним нивоом изграђености и ефикасности националних механизма.

Потребе праксе, захтеви времена и савремени трендови у науци и оперативној пракси упућују на неопходност мултидисциплинарног приступа и холизма у изучавању појава, процеса и система; општа теорија система и посебно системски приступ као њен методолошки поступак, јако су погодни за ту сврху.

OPPORTUNITIES AND LIMITATIONS OF TRAVEL AGENCY REGISTRATION IN THE PUBLIC ADMINISTRATION SECTOR IN SERBIA

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Abstract

The registration of travel agencies in the sector of public administration contributes to monitoring and analyzing the level of tourism development in the country. Multiple benefits of keeping records of travel agencies in the public administration sector include all interested parties, domestic and foreign physical entities as beneficiaries of tourism services, the private sector as providers of these services and the public sector as the creator of policies and strategies of tourism in the country. Establishing and keeping the register of tourism within Serbian Business Registers Agency as the unique, electronic and central public database of registered and/or recorded entities performing tasks in the field of tourism on the tourism market of the country, contributes to the monitoring of the level of tourism development, analysis of the condition of the unified tourist offer, encouraging development initiatives in the tourism sector, the implementation of modern solutions in the field of planning agency business in Serbia. The study uses mixed qualitative and quantitative methods, including field research and comparative analysis and description. The results suggest that the initial hypothesis, which refers to the current unsatisfactory level of the system for the registration of travel agencies in the public administration in the Republic of Serbia, is valid.

Key words: tourism, travel agency, development, registration, Serbia

МОГУЋНОСТИ И ОГРАНИЧЕЊА РЕГИСТРАЦИЈЕ ТУРИСТИЧКИХ АГЕНЦИЈА У СЕКТОРУ ЈАВНЕ УПРАВЕ У СРБИЈИ

Апстракт

Регистрација туристичких агенција у сектору јавне управе доприноси праћењу и анализирању нивоа туристичког развоја у земљи. Вишеструке користи вођења евиденције туристичких агенција у сектору јавне управе укључују све

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заинтересоване стране, домаћа и страна физичка лица као кориснике туристичких услуга, приватни сектор као пружаоце ових услуга и јавни сектор као креатора политика и стратегија туризма у земљи. Успостављање и вођење регистра туризма у оквиру Агенције за привредне регистре Србије као јединствене, електронске и централне јавне базе података о регистрованим и/или евидентираним субјектима који обављају послове из области туризма на туристичком тржишту земље, доприноси праћењу нивоа развоја туризма, анализи стања обједињене туристичке понуде, подстицању развојних иницијатива у сектору туризма, примени савремених решења у области планирања агенцијског пословања у Србији. Студија користи мешовите квалитативне и квантитативне методе, укључујући теренско истраживање и упоредну анализу и опис. Резултати сугеришу да је почетна хипотеза, која се односи на тренутни незадовољавајући ниво система за регистрацију туристичких агенција у јавној управи у Републици Србији, валидна.

Кључне речи: туризам, туристичка агенција, развој, регистрација, Србија.

INTRODUCTION

Numerous authors define the notion of a travel agency as “a department store of travels which acts in the name of supplier, such as airlines and other transport organizations, hotels and other organizations” (Browell, 1975:55). A travel agency is “an enterprise that only intermediates in obtaining the services of other persons during the tourists’ travel and the stay and/or offers tourism services as a new integral and their own product” (Hunziker & Krapf, 1942). The reality of the rapid development of tourism after World War II demanded changes in the attitude of legislation to tourist agencies towards the recognition of the legal capacity of a specific activity – professional activity tourist agent (Štetić & Šalov, 2000). Travel agencies, as each other’s competition, perform the direction of tourism movements in the fight for tourism consumers (Stanić & Pavlović, 2014). Performance of travel agencies on the market and their attitude towards tourists, affects the creation of consumer attitudes about the agency and its tourism products so that their contemporary business is characterized by an increasing openness and freedom of the economic aspects (Cho & Agrusa, 2006; Jevtić, Alavuk & Petrevska, 2015; Xu & Yan, 2015; Smith, 2018; Brun et al., 2020; Xie et al., 2020).

Recommendations for EU states connected with the role of public administration, fiscal decentralization and financial capabilities of local self-governments in public-service procurement refer mainly to measures associated with the reform of public administration. These measures should lead to an increased effectiveness of public spending, to a higher quality of public services, to a better performance of public institutions, to the implementation of effective control methods of public administration (Halaskova & Halaskova, 2015; Aguiar-Quintana, Moreno-Gil & Picazo-Peral, 2016). Tourism plans around the world are prepared either by cen-

tral or local authorities (Ali Selcuk Can, Faruk Alaeddinoglu & Nuray Turker, 2014; Afonso & Fernandes, 2008; Cicvarić Kostić et al., 2013).

One of the principles that underlie the regulation of relations in tourism in the Republic of Serbia is to provide a uniform, public and electronic database of registered data, which include data on travel agencies. Law on Tourism makes a distinction between the activities in the tourism and services in the tourism industry. The activity includes the work of travel agencies, the hospitality industry, marine industry and hunting tourism industry (Skakun & Skakun, 2013). The importance that travel agencies have in the tourism of the country is regulated by Law on Tourism, but also the Law stipulating contracts and torts, consumer protection and the protection of competition (Zakon o turizmu, 2015). In the tourism of Serbia small travel agencies whose business is focused primarily on international tourism market are predominant (Štetić & Dragičević, 2011).

Business Registers Agency (BRA) was founded in 2004 by the Law on Business Registers Agency. The Register of Tourism within the Business Registers Agency began working on January 1st 2010 in accordance with the Law on Tourism of the Republic of Serbia. Relevant regulations applied in the process of registration in the Register of Tourism, and relating to the travel agency, are: 1. The Law on Tourism, 2. Ordinance on the content of the Register of Tourism and the documentation needed for registration and records, 3. Ordinance on the type and conditions of the guarantee travel, how to activate and other conditions to be fulfilled by the tour operator, depending on the species, 4. Ordinance on the content of the license and the conditions and manner of issuing licenses for organizing tourist journey.

The registration process takes into account that the travel agency is: a domestic legal person, entrepreneur, legal entity branch, which meets the statutory requirements for performing activities of travel agencies. The licensing process has special treatment in registration and records of travel agencies. License expiration in the Register of Tourism deletes the travel agency from the Register of tourism without passing a special act¹.

The total number of registered travel agencies in the Register of Tourism, as a part of the Business Registers Agency (BRA), in 2019 was 997 active travel agencies. An interesting fact is that according to the data from BRA there has been a total of 765 travel agencies founded before January the 1st 2010, which operated as business entities in the tourism market of Serbia. In the following table are present data on the total number of registered travel agencies (TA) with active licenses (AL) per year of operation of the Register of Tourism, as well as data on inactive or deleted licenses (revoked or expired) and data on the number of licenses that are activated by year.

¹ <http://www.apr.gov.rs/Registri/Turizam/TurizamUputstva.aspx>

Table 1. The number of activated, deleted and active licenses of travel agencies in Serbia

Year	Activated licenses	Deleted licenses	Active licenses
2010	957	0	957
2011	70	0	1027
2012	54	5	1076
2013	97	622	551
2014	71	45	577
2015	59	70	566
2016	41	53	537
2017	76	17	560
2018	58	35	583
2019	41	149	475

Source: BRA, Register of Tourism, 12/31/2019.

As the Register of Tourism began working on January 1st 2010, and the obligation of all travel agencies that had previously existed and had active business in the Republic of Serbia was to re-register within a RETOUR (Register of Tourism), otherwise they were deleted or treated as non-existent. Hence the explanation for a large number of both activated and active licenses (957), which refers to the travel agencies which in 2010 operated on the territory of the Republic of Serbia. What seems interesting is precisely the fact that in 2013, 622 licenses were deleted from RETOUR, which is a drastic increase in the segment of deleted licenses compared to the previous year, while the same year only 97 new licenses were given, and the total number of active licenses of travel agencies amounted to 551. The reason lies in the adoption and implementation of the new Law on Tourism, which then caused a variety of public criticism in the tourism sector.

Fundamental changes in the treatment of tourism in national administrative practices affected the modifications in the new LOT which were, among other things, concerned about the organization of conditions for the licensing of travel agencies in the Republic of Serbia. The new law simplifies the insurance by introducing a policy of liability insurance with activity as the only way of security. In addition, the license of travel agencies, according to the new law, is valid for 3 instead of 5 years as it was regulated by the old law. According to the Law on Tourism, the jurisdiction over the affairs of travel agencies' records moves from the Ministry to BRA (RETOUR), where the license is issued only to the tour operator for the organization and realization of tourist trips in the country and abroad. And the obligation to possess a license is revoked for intermediaries, as travel agency intermediaries in the selling of tourist travel can, among other things, also perform the tasks of organizing excursions, tourist sightseeing and more. During 2019, 41 licenses were issued, while 149 lost their licenses, and the total number of active licenses of travel agencies that operate in the

Republic of Serbia amounted to 475. The following table presents the data on business entities by the status of activity codes.

Table 2. Travel agencies by the status of activity codes

	Travel agencies	Tour operators	Total
Activity codes	7911	7912	–
Active	746	251	997
In the liquidation process	67	18	85
In the bankruptcy proceedings	18	2	20
Deleted from the Register	680	44	724
Total in the Register	1.510	315	1.825

Source: BRA, the Register of Business Entities, 12/14/2020

From the beginning of 2020, new conditions apply that should be fulfilled by travel agencies and intermediaries in the sale of tourist travels in order to be able to perform their activity. The data refer to the license category and the prescribed amount of deposit for travel organizers. For each category of license, the appropriate amount of the travel guarantee coverage limit and the lowest amount of the deposit are prescribed. The travel guarantee agreement with the total coverage limit further complicates the registration of travel agencies.

Differences between entrepreneurs and companies are in the terms of responsibility and subjectivity. Registration of travel agencies in the Register of Business Entities covers both companies and entrepreneurs, which along with the Register of Tourism complicates the whole process.

Table 3. Travel agencies companies by the status of activity codes in the last five years

Activity Code	Status	2015	2016	2017	2018	2019
7911	Active	825	841	863	876	746
7911	Deleted	408	425	446	480	680
7912	Active	230	241	256	266	251
7912	Deleted	10	15	17	19	44

(7911 – Travel agencies activity and 7912 – Tour operators' activity)

Source: BRA, the Register of Business Entities, 12/31/2020

Table 4. Travel agencies entrepreneurs by the status of activity codes in the last five years

Activity Code	Status	2015	2016	2017	2018	2019
7911	Active	384	417	461	480	477
7911	Deleted	629	662	687	723	761
7912	Active	33	45	55	62	62
7912	Deleted	17	21	26	30	36

(7911 – Travel agencies activity and 7912 – Tour operators' activity)

Source: BRA, the Register of Business Entities, 12/31/2020

It is interesting that since the first travel agency on the territory of Serbia was recorded (in 1923), until 1989, in the mentioned years, only one travel agency was founded per year and in 1989 – 6 agencies were registered, which is a direct consequence of the political and economic situation in the country. During the 1980s, the role of the holder of the tourist product placement on the regional level was taken over by the tour operators and big travel agencies such as Yugotours, Putnik, Kompas, Atlas, Vojvodinaturist, which meant a selective approach in sales channels development and a selection of more significant and important travel agencies (Rabotić, 1985, 32–33).

At the same time, travel agencies were preparing their offers with specific inclusive tours and programs in accordance with the current jubilee celebrations (Subotić, 1986) or by forming specialized congress departments although their inclusion in the congress industry was exceptionally modest (Štetić, 1987). When the period of the 1990s is monitored, and especially from 1990 to 1999, the total number of 301 travel agencies was founded; unlike the first decade of the 21st century, when from 2000 to 2009, the total of 450 agencies was founded. In the last five years' period, the presented data reflect the level of relatively uniform travel agency activity.

METHODS

The case study of travel agency registration in Serbia in the sector of public administration, as a contribution to the monitoring of the level of tourism development, is examined through a survey which was conducted by interviewing a random sample. The questionnaire was distributed by email and directly. The survey research included a sample of 114 respondents. The methods used in this study included field and desk research. Field research helped obtain data from primary sources relevant for understanding the examined occurrences. A total of 140 questionnaires were distributed, and 114 respondents returned fully completed questionnaires. In this way, the rate of answers of 81.43% was achieved, which is extremely high when compared to the research in the literature (11.7% – 51%)².

For the purpose of this research, the Likert scale was used where the respondents were expected to express their level of agreement in the interval from complete disagreement to complete agreement with the

² The sample size of 114 respondents is quite satisfactory and the sample is representative when compared to other studies where sample sizes were ranging from 83 to 210 participants (Crouch (2007) – 83 respondents; Qu et al. (2000) – 167 respondents; Gomezelj, Mihalić (2008) – 118 respondents; Dragičević et al. (2011) – 118 respondents; Dwyer, Livaic, Mellor (2003) – 132 respondents; Enright, Newton (2005) – 210 respondents etc).

statement (1–5). For the purpose of this research we used the method of internal consistency within which are used many different techniques among which the most used one divides the test in two parts, Kuder-Richardson formula and Cronbach's alpha coefficient. One of the most popular statistical techniques in determining the reliability of the test is Cronbach's alpha coefficient, which determines the internal consistency or average correlation of items in the survey in order to assess reliability. It is used both for tests with questions where it is possible to give two answers and for tests with valuable responses, such as the value of Likert scale. The values of alpha coefficient range from 0 to 1 (the higher the value obtained, the test is considered to be more reliable). The generally accepted limit of the test reliability is $\geq 0,70$, but in some tests lower levels of alpha coefficient, $\geq 0,50$, are accepted (Reynaldo & Santos, 1999; www.ats.ucla.edu/stat/spss/faq/alpha.html).

The reliability of the test is determined by the consistency of the results obtained in the test and it ensures that the usage of different items, while assessing different constructions, offers consistent results. In the research of travel agency registration in the public administration sector in Serbia as a contribution to the monitoring of tourism development for the attribute assessment, the Likert scale was used ranging from 1 to 5 in order to assess the status of the monitored attributes. That is why we used Cronbach's alpha coefficient for determining the reliability of the questionnaire. Alpha coefficient was calculated using the statistical software package for statistical data processing and analysis (PSPP). Values are acceptable to it because they exceed the value of 0.70. In this way, the reliability of the test is confirmed.

The questionnaire was created for research purposes in terms of the recording of travel agencies in the public administration sector. Posted claims are designed to highlight the attitude of the respondents when it comes to registering the travel agencies in the public administration sector as a contribution to the monitoring of the level of tourism development, through a case study of travel agencies in Serbia. The first part of the questionnaire relates to the social and demographic profile or social and demographic characteristics of the respondents. In this sense, requested information about them was their age, gender, the level of education and the workplace. The second part consists of 14 offered claims referring to the current system, the contribution, the problems, the necessity and possibility of improving the system of the recording of travel agencies in the public administration sector. Data processing was performed using the software package for statistical data processing and analysis (PSPP). During the analysis of the results, descriptive statistics analysis was applied (arithmetic mean and standard deviation were covered). Research results will include the results of the statistical analysis and will be presented by the determinants of the model (descriptive analysis, student or T-test and one-factor analysis of variance ANOVA).

RESULTS AND DISCUSSION

When it comes to social and demographic characteristics of the respondents, the following were taken into consideration: gender, age, the level of education and employment. Within the total sample of 114 respondents, 55 respondents were women (48.2%) while there were 59 male respondents (51.8%). For the purposes of the analysis of the age structure of respondents, a division into 6 age groups was made. It was determined that the biggest number of respondents belongs to the age group from 21 to 30 years of age, and that is 37 (32.5%) respondents. The age group of 31 – 40 years has 33 (28.9%) respondents. The respondents who were between 41 and 50 years old are represented with 25 (21.9%) while the ones between 51 and 60 are represented with 14 respondents (12.3%). The least numerous are those who were under 20 years of age, only one respondent in total (0.9%) and over 60 years old, a total of 4 respondents (3.5%) of the total sample. For the analysis of the level of education, the respondents were divided into 5 groups, with the largest number belonging to the group – university/completed undergraduate studies with 34 respondents (29.8%), followed by the high school group with 33 respondents (28.9%), master degree group has 21 respondents (18.4%), college group with 16 respondents (14%) and the PhD group is represented with 10 respondents (8.8%). The analysis of the respondents' employment shows that the largest number of respondents is employed in the private sector – travel agencies, etc., with 36 respondents (31.6%). They are followed by others – students, senior citizens (pensioners), the unemployed, with 30 respondents (26.3%), the ones employed in the public sector – tourist organizations, chambers and the ministry with 26 respondents (22.8%), and those employed in educational institutions – schools, universities, institutes with a total of 22 respondents (19.3%).

These are the Items followed by numbers:

1. The current system of registering the travel agencies in the public administration is at a satisfactory level;
2. Registration of travel agencies in public administration contributes – Monitoring level of tourism development in Serbia;
3. Registration of travel agencies in public administration contributes – Analysis of the state of integrated tourism offer;
4. Registration of travel agencies in public administration contributes – encouraging development initiatives in the tourism sector;
5. Registration of travel agencies in public administration contributes – Implementation of modern solutions in the field of the regulation of agency business;
6. Problems with registering the tourist agencies in Serbia stemming from – Mismatch with legislation in the country;

7. Problems with registration of travel agencies in Serbia stemming from – the rest of outdated legal provisions from the previous period;
8. Problems with registration of travel agencies in Serbia stemming from – unfavorable regulations in the area of the agency business in the country;
9. Problems with registration of travel agencies in Serbia – frequent changes in the agency business sector in the tourist market;
10. It is necessary to improve the current system of registering the tourist agencies in the public administration sector in Serbia;
11. Possibilities for improving the system of registration of travel agencies in the public administration sector are reflected through – monitoring of global trends in the field of recording agency business;
12. Possibilities for improving the system of registration of travel agencies in the public administration sector are reflected through – strengthening the role of agency business on the tourism market of the country;
13. Possibilities for improving the system of registration of travel agencies in the public administration sector are reflected through – perfecting professional staff positions to create tourism policies;
14. Possibilities for improving the system of registration of travel agencies in the public administration sector are reflected through the – permanent monitoring and evaluation of the real and recorded status of travel agencies and their role in the tourism development.

Table 4. Descriptive statistics

Number of Item	N	Min.	Max.	Mean	Standard Deviation
1	114	1	5	2,67	1,09
2	114	1	5	3,75	0,98
3	114	1	5	3,89	1,07
4	114	1	5	3,39	1,07
5	114	1	5	3,56	1,05
6	114	1	5	4,39	0,83
7	114	1	5	4,24	1,00
8	114	1	5	3,83	0,89
9	114	1	5	4,64	0,72
10	114	1	5	4,66	0,69
11	114	1	5	4,12	0,88
12	114	1	5	3,96	0,92
13	114	1	5	4,66	0,66
14	114	1	5	4,72	0,65

Source: Authors', based on the processed data

Using descriptive statistics (Table 4), it was determined that average values of the items vary from the lowest (2.67) to the highest value (4.72). The lowest value shows that, according to the opinion of most of the respondents, the current registering system of travel agencies in the public administration sector in Serbia is not at a satisfying level; while the highest value indicates that the opportunities for the improvement of registering system of travel agencies in the public administration sector are viewed through permanent marketing and evaluation of real and recorded state of the agencies and their role in tourism development in the Republic of Serbia. Since the standard deviation for most of the items is less than 1 (with five exceptions which are higher than 1), it indicates a relatively high agreement of the respondents in terms of the analyzed items.

The following chart presents the average values and standard deviation according to the ordinal number of items.

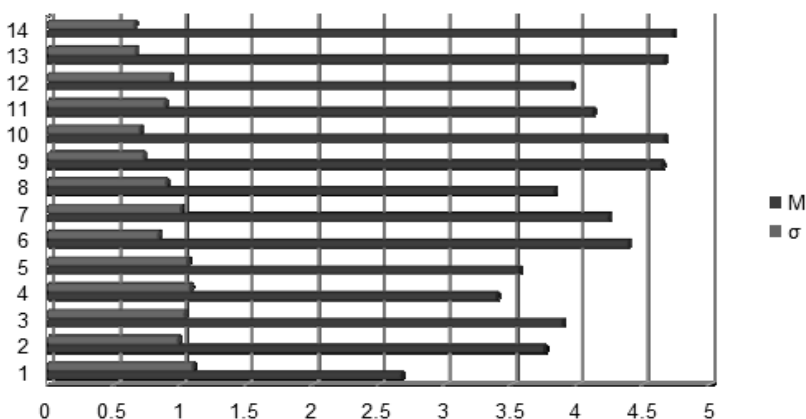


Chart 1. Average values and standard deviation according to the ordinal number of item

M – arithmetic mean (average value), σ – standard deviation

Source: Authors', based on the data

The following table (Table 5) shows the results based on the carried out T-test in relation to gender.

The research results in this paper based on the T-test in relation to gender show relative differences between arithmetic means by determinants of items in relation to gender of respondents with the level of significance $p < 0.05$. In this way, the assumption is disproved, that is, the initial hypothesis that the assessment of determinants depends on the gender of respondents, and on the other hand it is confirmed that there is high agreement of participants about the assessment of determinants regardless of their gender. As the obtained values are greater than or equal to 0.05 (they are equal for the item under number 12), the initial hypothesis on the equality of arithmetic

means, that is to say the attitudes of women and men is not discarded, resulting in the conclusion that, with the level of significance $p < 0.05$ there are no major differences in attitudes between men and women.

Table 5. The results of T-test according to the determinants in a consecutive order in relation to gender

Number of item	Gender	M	σ	t	p
1	F	2.84	1.13	1.62	0.11
	M	2.51	1.02		
2	F	3.75	1.04	0.00	1.00
	M	3.75	0.94		
3	F	3.89	1.13	-0.4	0.97
	M	3.90	0.92		
4	F	3.38	1.25	-0.4	0.97
	M	3.39	0.87		
5	F	3.53	1.14	-0.33	0.74
	M	3.59	0.97		
6	F	4.33	0.84	-0.84	0.40
	M	4.46	0.82		
7	F	4.13	0.98	-1.13	0.26
	M	4.34	1.01		
8	F	3.82	0.82	-0.17	0.86
	M	3.85	0.86		
9	F	4.53	0.79	-1.64	0.10
	M	4.75	0.63		
10	F	4.58	0.85	-1.14	0.26
	M	4.73	0.49		
11	F	4.20	0.95	0.90	0.37
	M	4.05	0.82		
12	F	4.13	0.84	1.95	0.05
	M	3.80	0.96		
13	F	4.65	0.70	-0.5	0.96
	M	4.66	0.63		
14	F	4.64	0.80	-1.33	0.19
	M	4.80	0.45		

M – arithmetic mean (average value), σ – standard deviation, t – value of T statistics, p – level of significance ($p < 0.05$)

Source: Authors', based on conducted research

For the purpose of this paper, one-factor analysis of variance ANOVA was carried out per determinants in relation to age, education level and occupation of respondents, respectively. The data obtained are presented in the following table.

9	Under 20	5.00	0.00	0.75	0.59	SSS	4.58	0.75	3.04	0.02	Public	4.46	0.99	2.89	0.04
	21-30	4.49	0.84			VS	5.00	0.00			Educat.	4.77	0.43		
	31-40	4.76	0.61			VSS	4.79	0.59							
	41-50	4.76	0.66			Mr/MSc	4.29	0.96			Private	4.86	0.42		
	51-60	4.57	0.65			PhD	4.50	0.71			Others	4.43	0.82		
	Over 60	4.50	1.00												
10	Under 20	5.00	0.00	2.34	0.05	SSS	4.30	1.02	3.63	0.01	Public	4.62	0.50	8.60	0.00
	21-30	4.35	0.98			VS	4.69	0.48			Educat.	4.95	0.21		
	31-40	4.79	0.42			VSS	4.88	0.33							
	41-50	4.80	0.41			Mr/MSc	4.76	0.44			Private	4.89	0.40		
	51-60	4.86	0.53			PhD	4.80	0.63			Others	4.20	1.03		
	Over 60	4.75	0.50												
11	Under 20	4.00	0.00	2.01	0.08	SSS	3.88	1.02	1.67	0.16	Public	4.38	0.75	1.76	0.16
	21-30	3.84	1.01			VS	3.94	0.57			Educat.	4.23	0.92		
	31-40	4.39	0.56			VSS	4.21	0.81							
	41-50	4.20	0.76			Mr/MSc	4.33	0.91			Private	4.08	0.77		
	51-60	4.29	0.91			PhD	4.50	0.85			Others	3.87	1.04		
	Over 60	3.50	1.73												
12	Under 20	5.00	0.00	1.80	0.12	SSS	4.06	0.83	0.19	0.94	Public	3.96	1.08	0.24	0.87
	21-30	4.03	0.80			VS	4.00	1.03			Educat.	3.86	0.83		
	31-40	4.12	0.86			VSS	3.88	0.98							
	41-50	3.52	0.96			Mr/MSc	3.90	0.94			Private	3.92	0.94		
	51-60	4.00	1.11			PhD	3.90	0.88			Others	4.07	0.83		
	Over 60	4.25	0.96												
13	Under 20	5.00	0.00	1.67	0.15	SSS	4.70	0.53	2.64	0.04	Public	4.62	0.70	0.08	0.97
	21-30	4.70	0.52			VS	4.56	0.81			Educat.	4.64	0.79		
	31-40	4.70	0.64			VSS	4.88	0.33							
	41-50	4.72	0.46			Mr/MSc	4.52	0.75			Private	4.67	0.68		
	51-60	4.21	1.19			PhD	4.20	1.14			Others	4.70	0.53		
	Over 60	5.00	0.00												
14	Under 20	5.00	0.00	1.06	0.38	SSS	4.55	0.79	1.56	0.19	Public	4.69	0.84	1.97	0.1
	21-30	4.57	0.73			VS	4.75	0.45			Educat.	4.82	0.39		
	31-40	4.88	0.33			VSS	4.91	0.29							
	41-50	4.80	0.41			Mr/MSc	4.62	0.92			Private	4.86	0.35		
	51-60	4.64	1.08			PhD	4.80	0.42			Others	4.50	0.82		
	Over 60	4.50	1.00												

M – arithmetic mean (average value), σ – standard deviation,
 F – value of F statistics, p – level of significance (p<0,05)
 Source: Authors', based on data analysis

It can be concluded that the surveyed respondents, regardless of their age, level of education (qualifications) and occupations (the sector in which they work), do not differ significantly in evaluating the presented items. The arithmetic means of sets are the same, that is, the attitudes of the respondents do not differ. It is evident that the controlled factor (age, education level and occupation of respondents) does not affect significantly the attitudes of respondents, with minor deviations (question under numbers 1 and 7 in the age area; questions 1, 9, 10 and 13 in the level of education; 1, 6, 7, 9 and 10 in employment). There have been no similar scientific researches, so it is impossible to compare the results. As the survey covers the employed in travel agencies as well, their attitudes are

of great importance, because satisfied employees in travel agencies are considered primary development resources, and determining the degree of satisfaction of human capital represents an important segment of travel agencies management (Kovačević, Gajić & Penić, 2012).

CONCLUSION

The current way of recording travel agencies in the public administration sector in the Republic of Serbia is not at the satisfying level due to the systematicity absence of systematic nature, as well as due to speed and accuracy of data update. The existence of two registers where travel agencies existing in the territory of Serbia are, virtually, registered in parallel with significant quantitative differences (data on the number of travel agencies that operate in the tourist market of Serbia) which directly indicates the currently inadequate way of registering travel agencies in the public administration of the Republic of Serbia. It is necessary to regulate the registration system and simplify the method of registration, in order to avoid the double data on the number of travel agencies that do not match (travel agencies with and without a license recorded in the Register of Tourism compared to travel agencies and tour operators registered in the Register of Business Entities).

Since travel agency registration contributes to monitoring the level of tourism development, the analysis of the state of the unified tourist offer, encouraging development initiatives in the tourism sector and the implementation of modern solutions in the field of the agencies' operations in the country, it is necessary to improve the current system of travel agency registration in the public administration sector. Some of the problems with registering travel agencies in the public administration sector in Serbia arise from non-compliance with the legislation, the remains of outdated legal provisions from the previous period, unfavorable regulations in the area of agency business, frequent changes in the agency business sector in the tourism market of Serbia (opening, shutting down, changing the names/headquarters). Opportunities for improving the registration system of travel agencies in the public administration sector are reflected through: the monitoring of global trends in the field of registration agency business, strengthening the role of the agency business on the tourism market of the country, the continuous development of professional staff at the positions that create tourism policy in the country, the constant monitoring of the made changes and control of the quality of the achieved results.

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МОГУЋНОСТИ И ОГРАНИЧЕЊА РЕГИСТРАЦИЈЕ ТУРИСТИЧКИХ АГЕНЦИЈА У СЕКТОРУ ЈАВНЕ УПРАВЕ У СРБИЈИ

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Резиме

Један од принципа на коме се заснива регулисање односа у туризму у Републици Србији је обезбеђивање јединствене, јавне и електронске базе података регистрованих података, укључујући податке о туристичким агенцијама. За регистрацију туристичких агенција задужена је Агенција за привредне регистре, основана 2004. године Законом о Агенцији за привредне регистре.

Студија случаја регистрације туристичких агенција у Србији у сектору јавне управе испитује се кроз анкету која је спроведена анкетањем случајног узорка. Упитник је дистрибуиран путем е-поште и директно. Истраживањем је обухваћен узорак од 114 испитаника. У сврху овог истраживања коришћена је Ликертова скала. Од испитаника се очекивало да изразе ниво сагласности у интервалу од потпуног неслагања до потпуног слагања са изјавом (1□5). У сврху овог истраживања коришћен је метод интерне конзистентности. Најкоришћенија је подела теста на два дела, Кудер-Ричардсонову формулу и Кронбахов алфа коефицијент.

Тврдње су осмишљене да истакну став испитаника о регистрацији туристичких агенција у сектору јавне управе као допринос нивоу развоја туризма, кроз студију случаја туристичких агенција у Србији. Први део упитника односи се на социјалне и демографске карактеристике испитаника (старост, пол, ниво образовања и радно место). Други део се састоји од 14 понуђених захтева који се односе на тренутни систем, допринос, проблеме, неопходност и могућности унапређења система евидентирања туристичких агенција у сектору јавне управе.

Обрада података извршена је помоћу софтверског пакета за статистичку обраду и анализу података. Резултати истраживања укључују статистичке анализе и представљени су одредницама дескриптивна анализа, Т-тест и једнофакторска анализа варијансе АНОВА. Евидентно је да контролисани фактор (старост, ниво образовања и занимање испитаника) не утиче значајно на ставове испитаника, са мањим одступањима.

Резултати истраживања показују да начин евидентирања туристичких агенција у сектору јавне управе у Републици Србији није на задовољавајућем нивоу због одсуства системске природе, као и због брзине и тачности ажурирања података. Потребно је уредити и поједноставити систем регистрације, како би се избегли двоструки подаци о броју туристичких агенција који се не поклапају (туристичке агенције са и без лиценце уписане у Регистар туризма у поређењу са туристичким агенцијама и туроператорима уписаним у Регистар привредних субјеката).

Неки од проблема са регистрацијом туристичких агенција у сектору јавне управе у Србији настају услед непоштовања закона, остатака застарелих законских одредби из претходног периода, неповољних прописа у области агенцијског пословања, честих промена у агенцијском пословању (отварање, гашење, промена имена/седишта). Могућности за унапређење система регистрације туристичких агенција у сектору јавне управе огледају се кроз: праћење глобалних трендова у пословању регистрационих агенција, јачање улоге квалитета постигнутих резулта-

та агенцијског пословања на туристичком тржишту, континуирани развој стручног особља на позицијама које креирају туристичку политику, стално праћење извршених промена и контрола.

TRANSFORMATION OF THE CONCEPTUALIZATION OF SUICIDE THROUGH THE CENTURIES IN EUROPE

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Abstract

In this paper we aim to acknowledge suicide both as a universality, omnipresent through various cultures and ages and always evoking potent reactions, as well as inspect its historical and geographical specificities. In particular, the historical transformation of discourse surrounding suicide in Europe is examined, including how judicial, religious, medical, psychological, literary, philosophical views, debates and writings on suicide have shaped the treatment of suicidality and the conceptualization of people with suicidal ideation. Parallels are drawn between past and current approaches to treatment and concerns regarding the depiction of suicide, while changes are examined within the context of and as a reflection of societal changes, both in terms of empathy and knowledge available, as well as grand social revolutions and dominant political regimes and orientations.

Key words: suicide, discourse, Europe, critical psychology, historical psychology

ТРАНСФОРМАЦИЈА КОНЦЕПТУАЛИЗАЦИЈЕ САМОУБИСТВА КРОЗ ВЕКОВЕ У ЕВРОПИ

Апстракт

Циљ овог рада је препознавање самоубиства као универзалности, свеприсутне кроз различите културе и векове, која увек изазива моћне реакције, као и разматрање његових историјских и географских специфичности. Посебно се разматра историјска трансформација дискурса који окружује самоубиство у Европи, укључујући и то како су правни, религиозни, медицински, психолошки, књижевни, филозофски погледи, дебате и списи о самоубиству обликовали лечење суицидалности и концептуализацију особа са суицидалном идеацијом. Повучене су паралеле између пређашњих и садашњих приступа лечењу и брига у вези са приказивањем самоубиства, док су промене размотрене унутар контекста и као одраз друштвених промена, како у погледу емпатије и доступних знања, тако и у погледу великих друштвених револуција и доминантних политичких режима и оријентација.

Кључне речи: самоубиство, дискурс, Европа, историјска психологија, критичка психологија

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UNIVERSALISMS AND SPECIFICITIES

Suicide – killing oneself. Ending one’s own life. Or, as Émile Durkheim elaborated (1897), “Suicide is applied to all cases of death resulting directly or indirectly from a positive or negative act of the victim himself, which he knows will produce this result” (Čartišvili, 2004: 27).

Across the globe and throughout centuries, suicide remains a universal constant. People have made the decision to end their lives because of harrowing life circumstances, grief, hopelessness, isolation, etc. The act of taking one’s own life has never left the surroundings indifferent – matters of life and death are surrounded by rituals and practices that mark those events as extraordinary. Even cultures which see life and death not as severed, but as a cycle, mark birth and death and give them weight. It is no wonder suicide, as an extension of that, produces profound reactions. With early writings on suicide dating back to antiquity, voluntary death has been a subject of contempt, mockery, a cause for severe punishment of the deceased’s family or a justification for the mutilation of the deceased’s body. At times, suicide has been a call for deeper reflection, or has garnered admiration, when the act is assessed as admirable. Practices surrounding suicide vary by culture and time period – from its depiction as an act of heroism in Japan or encouraging sati – ritual self-immolation of widows on their husbands’ funeral pyres in India – to a criminalization of suicide during the middle ages in Europe (Čartišvili, 2004: 93).

The problem is omnipresent, yet layered and complex. It is for this reason the field of interest is narrowed down to Europe, as historical transformation of attitudes towards and theories of suicide, as well as their impact on the treatment of suicidality, are examined in greater detail.

ANTIQUITY

Greece

Ancient Greece is the foundation and ammunition for future debates on suicide. With the exemption of soldiers and slaves, who were not free citizens or whose duties bound their lives to the state, suicide was not criminalized, given that it was committed with the state’s agreement. Furthermore, Athens harbored poisons which, upon the senate’s agreement, were distributed to those intent on ending their lives, making this a proto-euthanasia. The individual’s deep entrenchment within the political life was further emphasized by punishments reserved for those who committed suicide without the senate’s decision, via post-mortem disfigurement and mutilation of the body. Various schools of philosophy had their own views on the ethics and rationale of suicide, with Cynics in accordance with suicide when rational life was impossible, Epicureans believing in

life's value when it brings pleasure, and accepting suicide when displeasure outweighs it, to Pythagoreans, who opposed suicide on a mathematical basis, claiming the number of souls was finite, and by committing suicide, *logos*, a cosmic order would be disturbed (Minoa, 2008: 58).

Socrates's suicide marked Antiquity. According to Plato, Socrates believed a man should not kill himself, but when God gives him the sign to do so (Čartišvili, 2004: 136). Plato's vision originates from his specific position – he is against suicide, but must reconcile his views with his teacher's act. Plato bases his arguments against suicide on God's will, while Aristotle speaks of duty to society, and suicide robbing society of a useful member (Čartišvili, 2004: 137).

While still not connected with suicide, Hippocrates' four humors theory describes a personality type which will in the future be associated with suicide proneness. According to him, illness had natural causes, and was rooted in the imbalance of four humors coursing through human body – blood, phlegm, yellow and black bile. In the future, suicidality and dark thoughts would be associated with the excess of black bile within the medical discourse (Garrison, 1966: 62).

Rome

The stoic belief that life should be dignified or not lived at all marked early Roman thought, which was applied to suicide of the elderly and political suicides. As stoicism waned and the Empire faced Barbarian attacks, the lack of manpower, and financial troubles, the criminalization of suicide and punishment via confiscation of the deceased's property arose as a convenient method of decreasing mortality and increasing the capital. This is merely among the first instances of criminalization of suicide in an effort to increase manpower in times of state instability, wars and revolutions, when staying alive and upholding order is seen as the duty of the people. During this period, Neoplatonism takes hold and declares suicide contrary to God's will, as he is the only one who has the power to take human souls – an early formulation of the Christian thought which would later spread across Europe (Minoa, 2008: 71).

THE MIDDLE AGES

Christianity takes hold with the Milanese edict of 313AD, propagating benevolent treatment of Christians within the Roman empire. Uprisings and Barbarian attacks lead to the fall of the Empire in 476AD. Christian thought of the time was shaped by these circumstances – the lack of manpower due to wars, demographical and economic crises. Saint Augustine, similarly to the Neoplatonists, concludes suicide is contrary to God's will, and that "Thou shalt not kill" applies to killing oneself as well. Suicidal people doubt God's power and grace, and their heresy was

punished with body mutilation, public hangings, limb removal, burial away from sacred grounds. Eternal damnation awaited the suicidal in the afterlife, and property confiscation in this one. Condemnation is also the result of folk beliefs that the soul of the suicidal person remains in this world, enters its corpse and attacks the innocents. In 1274 Thomas Aquinas claims suicide is wrong on three bases: it is contrary to nature, which urges us to live, to God, who human lives belong to, and society, as it robs it of a useful member (Minoa, 2008: 46).

For the clerics, suicide is forgivable on the condition the person has lived an honorable life and has killed themselves because of a satanic possession. The main reasons of suicide, according to the church, is demonic possession and desperation caused by one's own sins – of particular interest since the person believes their own sins too great for God's grace. As a solution, greater belief in God and confession of sins are introduced. Until the 11th century, confession and forgiveness were separate, when they were unified so that sinners would not commit suicide between confession and forgiveness (Minoa, 2008: 48). To a degree, the church had the role of psychotherapy and conversation therapy would take on in the future (Kvale, 2003).

Regardless of the stigma, people of lower classes make up the majority of suicides during this period (Minoa, 2008: 27).

Many ancient texts were lost during this period, but some make their way to Europe in the 12th century via Constantine the African, a known translator of medical works from Arabic, Latin and Greek (Burnett & Jacquart, 1994: 39). Not long after, in 1265, Brunetto Latini uses the term *melancholia* to describe a form of insanity caused by the excess of black bile, an idea based on Hippocrates' four humors theory. Melancholia is characterized by dark moods, bursts of rage and thoughts of death, which may lead to suicide (Minoa, 2008: 53). This is the first attempt to medicalize suicide and present it as a chemical imbalance – something which will in the future be seen in serotonin and dopamine theories of depression and suicide, as well as psycho-pharmaceutical treatment.

RENAISSANCE

Characterized by greater anthropocentricity, the Renaissance strengthens during the plague between 1348 and 1350, and focuses more on celebrating this life than preparing for the afterlife. A renewed interest in ancient texts arises, as does a questioning of traditional values of the church – regarding suicide as well (Tuchman, 1978: 130).

Desperation due to poverty and illness remain present in the working class, where suicide is most prevalent. Yet more members of noble families, which are exempt from such troubles, make the decision to end their lives, and duels become a common form of indirect suicide. Durk-

heim will later explain this phenomenon by lower social integration and looser ties within the upper class. Suicide is still criminalized, but punishments decrease in severity, as the elite attempts to present cases as accidents, preserve dignity and property (Minoa, 2008: 101).

The development of the press eases the distribution of anti-suicide texts. Suicide is still a sin among the clerical order, and some, such as Navarus, in 1581, speak of not only suicide, but the desire to have never been born as a sin (Minoa, 2008: 91). This is in accordance with modern passive suicidality, conceptualized as imagining one's own death without attempts to commit suicide, the desire to die or to have not been born (Falcone & Timmons-Mitchell, 2018). In literature, suicide is present in Goethe's *Faust*, with the titular character searching for absolute knowledge, which would equate him with God, and willing to end his life in the moment of absolute happiness (Čartišvili, 2004: 115). Hamlet's dilemma reaches wider audiences, and class discrepancies with regard to suicide are found in the line that Ophelia would not have been buried had she not been of noble descent (Minoa, 2008, p. 132).

The medicalization of suicide is present in many theories that develop. Melancholia is connected to suicide in 16th century, and Richard Burton analyzes melancholia in 1621, connecting it to the earth, Saturn, black bile. He claims certain people are more susceptible to it, but that socio-economic factors play a role in its development. He describes unease, fear, indecisiveness of sufferers, and how such confusion leads to thoughts of suicide. He advises treatment by music, fresh air, pleasant aromas, interest in diverse topics. He speaks of individualized therapy, claiming that isolated ought to socialize, while the sociable should have alone time, and opposes astrological explanations and exorcism (Minoa, 2008: 122). Burton's approach is highly modern for the time period, and much more than the treatments to come.

As of 1665 doctors suggest exempting those declared insane prior to suicide from punishments, and legislature would soon follow suit. Meanwhile, neurologist Thomas Willis offers a psychopathological theory of suicide, postulating an idea of a manic-depressive cycle, where melancholia transforms into rage and leads to suicide (Thomas & Grey, 2016). These ideas present suicidal people not as Satan's marionettes, but as those in need of treatment.

Considering that many doctors took black bile for the cause of melancholia and suicidality, treatment included restoring balance among juices circulating the body, be it by applying leeches, baths or traveling. In 1662, London, first blood transfusion took place in order to cure melancholic suicidality, which, supposedly, cured the patient completely (Minoa, 2008: 168).

As opposed to the Middle ages and ideas of demonic possession, Renaissance aims to comprehend how humans function, as well as their

predisposition to certain illnesses, which is something today's genetics would agree with. Thus, treatment lies within physiology.

ENLIGHTENMENT

In the spirit of revolutions brought about by Newton's and Galileo's discoveries, Europe tends to base its knowledge on science and empirical evidence in the 17th and 18th century. Industrialization, work and control of the workers shape the everyday life. Secularization has changed public perception of suicide, presenting it not as a product of sin, but of illness (Zafirovski, 2011). David Hume's essay *On suicide* from 1770 played a role by refuting Thomas Aquinas's arguments that suicide is an attack on God (since he himself has created a suicidal person), society (nothing is violently taken, contribution to society simply ends), and is unnatural (as are ships and houses, and are used regardless). Philosophers were shunned as instigators of suicide, to which they claimed no texts would change the cause of suicide – suffering, physical or mental (Minoa, 2008: 290).

Perhaps these attacks were not baseless. The pathos of Sturm und Drang is reflected in Goethe's *Sorrows of Young Werther*, whose titular character commits suicide because of a misfortunate love. Soon, suicides among the elite begin showing elements of Werther's story, with the deceased in the same clothes as those worn by him, or with the same weapon, and with copies of the book upon the bodies of some (Minoa, 2008: 311). The book was banned in certain countries, and is paralleled by copycat suicides of today, and concerns regarding the portrayal of suicide in the media, as it may inspire those vulnerable (Devitt, 2017).

While fears of suicide because of pathos, ennui or unrequited love are reserved for the upper class, it is the lower class that comprises the majority of cases (Minoa, 2008: 288).

From a medical perspective, black bile theories are still prevalent. Voltaire suggests those affected wait a week until they make the decision and occupy themselves. Climate theories of suicide are a novelty of the era, with Madame de Staël claiming there are few suicides among Mediterranean people since they enjoy beautiful nature, while the English are affected by the ocean, whose fumes enter the body and soften the brain, predisposing it to madness and suicide (Minoa, 2008: 318).

Another practice which marked the time period was separating those declared insane from "normal people." First institutions, not completely medical nor judicial, where mentally ill, idle and criminals were placed, began opening in the 17th century. Industrialization placed great importance on the ability to work, and those institutionalized were characterized by their inability to do so – uncontrollable by the state and unable to contribute to capital amassment, they were separated lest they deter

others from doing their duties. Insanity was related to amorality (Foucault, 2008: 513), and declaring a suicidal person insane would lead to their institutionalization – it is claimed that 15% of Bedlam was populated by suicidal people. Philippe Pinel claimed that a number of those belonged to the clerical order, whose devotion to God led to abnegation. It is of note how the clerical order has transformed with industrialization and secularization, from those capable of giving forgiveness and alleviating suffering, to those susceptible to insanity themselves. The institutionalized needed to be surveyed and, where possible, their bodies and minds purified – suggestions of bath therapies get a cruel dimension, with the patients submerged in freezing water and their movement restricted (Foucault, 2008: 310). Negating mental aspects of *mental* illness is of note and relevant to the present, as psychiatric institutions of today see the patients' physical safety as a priority – accomplished by surveillance, and they are often given psychopharmaceuticals, without being offered psychotherapy (Awenat et al., 2018).

REVOLUTIONS AND THE 18TH CENTURY

While the previous period was marked by tendencies to secure and develop kingdoms economically, the 18th century is marked by tendencies to establish liberty, equality, fraternity – with loyalty to newborn republics. Since the Bourgeois revolution, suicide is condemned harshly using Jean Jacques Rousseau's social contract as an argument. While previous establishments enslaved people, republics gave freedom and protection. The least citizens could give back were their contribution to upholding the republic – which would be impossible if they ended their lives (Minoia, 2008: 348).

Institutionalization lives on. Philippe Pinel writes in 1801 that suicidal people are of feeble spirit, with a sensitivity towards negative events, which increases their vulnerability. While he advocates for moral treatment in institutions, Pinel claims profound shocks have managed to cure those with suicidal thoughts – he speaks of people intent on drowning attacked by muggers who, faced with an existential threat, were rid of their intentions. This note strengthens purification therapies in institutions, and can be tied to convulsive shock therapies of the 20th century. Pinel also notes positive effects of alcohol and opioids on people with suicidal ideation – a statement pharmaceutical companies of today would likely agree with (Minoia, 2008: 367). During this period, it was claimed that too much freedom causes uncertainty and fear, and at times suicide, as well as that order and manners are necessary for good health, all in line with institutional practices. It was believed that establishing order and natural rhythm among the institutionalized would benefit their health, so

meal and sleep times were tightly scheduled and controlled. The mentally ill became someone in need of discipline (Foucault, 2008: 506).

Outside of institutions, statistics develop on foundations laid by Francis Galton and Karl Pearson. Except describing and classifying individuals, statistics dealt with the quantification of social phenomena, such as suicide. Discoveries that suicides peak between May and June, that more men and Scandinavians commit suicide inspired the key theory of suicidology – Émile Durkheim wrote his work *Suicide* in 1897. Durkheim sees suicide as a result of disturbances in social integration and moral regulation – no social integration would lead to egotistic, and excess integration would lead to altruistic suicide, while a lack of moral regulation leads to anomic and an excess of it to fatalistic suicide (Čhartišvili, 2004: 176). Egoistic suicide is caused by purposelessness and melancholia, when a person has no ties to those around them, and Durkheim ties it to higher levels of individuation, those who do not share traditional values and are robbed of social support. Altruistic suicide takes place when an individual places community's needs and values above their own. Societies with higher social integration might place great value on sacrifice for the community, for example, within the military (Thompson, 2007: 109) – one may note similarities to the situation in Japan mentioned in the introduction. As per moral regulation, transitions, revolutions, economic and moral instabilities lead to anomic suicide (Čhartišvili, 2004: 177), while rigid control and regulation, limitations which allow no personal freedom, lead to fatalistic suicide (Lester, 1991).

While supporting these ideas, sociologist Maurice Alwachs sees loneliness as the root cause of suicide, turning towards the individual (Minoa, 2008: 370).

20TH CENTURY

Until the beginning of the 20th century, psychology had established itself as a science and gravitated from exploring stimuli to attempting to understand personality and psychopathology. While institutionalization is still present, it grows less sustainable because of funds necessary, and where possible, individual conversation therapies in community settings replace it (Fakhoury & Priebe, 2007).

Sigmund Freud's psychoanalysis and psychodynamic psychotherapy gained reputation by the time Freud attended a meeting on suicide in 1910, and he formulated his thoughts on the subject in his work *Mourning and melancholia* in 1917. Both mourning and melancholia are reactions to the loss of an object – be it a person or truly an object, but only mourning takes place within the conscious, and emotions towards the object are clear, which allows the mourner to recall events with the object and cut ties with it. In melancholia, the object is unconsciously internalized, its

significance so great it becomes a crucial part of the melancholic. If the object is lost or betrays the person, it becomes the target of intense negative emotions, such as aggression, rage, and hostility. According to Freud (1917), they cannot be directed to the now gone object, and are directed inwards – suicide comes as an attempt to destroy the internalized object (Clewell, 2004).

Another conceptualization of suicide of Freud's comes in the forms of eros and thanatos theory. Eros or libido is described as life energy, sexual instinct, or pleasure principle. This instinct is countered by destrudo, thanatos or death instinct. While psychological processes are characterized by tendencies towards experiencing greatest pleasure, certain behaviors – continuous recollections of trauma or self-harming behaviors of patients – cannot be explained by libido. These behaviors speak of repetitiveness of thanatos, its tendency to bring the organic back into inorganic, life into death. Suicide is seen as thanatos outweighing eros (Freud, Richards, & Strachey, 1991).

During the 1920s and 1930s, attempts to ease suffering by using pharmaceuticals become more common. From Sakel's use of insulin to induce shock in patients in 1927, shock therapy is established, taking on forms of convulsive and electroconvulsive therapy. Shock therapies were administered to psychiatric cases, among whom were people with recurrent suicide attempts. These practices can be traced back to Pinel's writings on beneficial effects of shock (Fink, 1984). While efficient short-term, shock therapy functions best paired with medication (Jelovac, Kolshus, & McLoughlin, 2013), and potential harmful effects, such as brain damage and memory loss, deterred doctors from administering it more frequently (Report on electroconvulsive therapy, 2002).

Melancholia, traditionally a main cause of suicidality, undergoes a transformation – Karl Kleist coins a term unipolar to differ constant dark moods from those in combination with manic symptoms, later to be known as bipolar disorder (Angst & Marneros, 2001), while it is described as depressive reaction in DSM-I of 1952. Another common explanation of suicidality, madness, becomes known as psychosis, and is managed with the use of psychopharmaceuticals (American Psychiatric Association, 1968). Medication allows patients to live in and contribute to a community, as deinstitutionalization grows more common (Priebe et al., 2005).

Sociological theories of suicide are refuted, with claims Durkheim's theories were based on incorrect data. Instead, individual explanations become more common, postulating genetics and psychological factors as crucial for susceptibility to suicidality. While genetics determine ease of adaptation to unfavorable circumstances, guilt, shame and inability to integrate facilitate suicide (Minoa, 2008: 371).

While European contributions are not insignificant, it should be noted psychology, as well as theories of suicide, develop more rapidly in

America during the 20th-century, and Europe is influenced by those ideas. As a reflection of greater individualism in America, theories focus on the individual as well. Karl Meninger sees every conscious behavior harming the individual as suicidal, and sees suicide as vengeance – aggression directed outward, guilt – directed inward, and depression – the desire for death (Čhartišvili, 2004: 186). Hopelessness and helplessness are crucial to other theories, such as Beck's (Green et al., 2015). Joiner highlights the individual's feelings are a burden, their isolation and lack of fear as components necessary to commit suicide (Joiner, 2015).

PAST AND PRESENT – AN EVALUATION

Increased efforts to understand suicide, offer theories and formulate treatment methods, scientific contribution to the explanation of the phenomenon have influenced legislation. In case man himself is the proprietor of his own life, and not just its guardian until Gods and kings take it into their hands, he may make his own decisions about it – which is reflected in suicide laws. While no country will encourage suicide, it is not criminalized in Europe (Canick, 1997), and those who have endured unspeakable suffering will not be publically humiliated, nor will their mourning families suffer consequences.

As for the stigma which characterizes suicide and suicide attempts, while society has abandoned beliefs of satanic possession, taboos are still present. There is a profound evaluation of someone who overcomes something primal, programmed and unquestioned – survival instinct – as alien and other. People see suicide as a result of personal weakness and shortcomings, devalue people with suicidal evaluation, and are uncertain they could accept them as caretakers, teachers, or workers (Scocco, Castriotta, Toffol, & Preti, 2012).

Speaking of scientific findings and treatment practices, ideas have grown more complex from the past. Yet foundations from the past still remain – from accepting melancholia as a cause of affective instability and suicide, psychopathology is conceptualized as a chemical imbalance. While in the past an excess of black bile was seen as the root cause of suicide, nowadays insufficient activity of serotonin system is to blame (Karthick & Barwa, 2017). There are more efficient treatment approaches than baths and purification – medication helps those suffering to continue their lives in society, as opposed to being isolated and institutionalized. Regardless, suicide attempts are typically followed by an institutionalization, during which physical safety and medication take priority, with psychotherapy being rarer. Perhaps returning to the Middle ages confessions would not be regressive in this case, as those institutionalized can be open to conversation therapy (Awenat et al., 2018), if only as a way of creating

bridges towards society, family and friends, and gaining a support system, which they see as beneficial to their mental health (Lakeman, 2010).

What happens upon their return to society? To the unchanged circumstances which contributed to their suicide attempt, compared to which suicide appears a better option? Individualistic and genetic explanations are accurate in assessing some as more vulnerable, and that circumstances seen as insurmountable lead to their committing the act itself. It is certain those vulnerable will profit from therapy, but what are they empowered for? Are they desensitized to stress which would rightfully render everyone hopeless? Many people cite a change of environment following their suicide attempt as significant contributors to their decision to live, with leaving environments which made them feel hopeless, such as unsafe family homes, a burden off their backs (Everall, Bostik, & Paulson, 2006). Therapy will not have the same effect on those to whom conversation itself represents creating ties to society, and on those whose existence and life circumstances are uncertain, whose family life causes pain and trauma. Individualistic approach assumes an empowered person will be ready to take on challenges, that they have someone and somewhere to return to – but historical overviews show lower classes consistently make up the majority of suicides. Therapists are rarely encouraged to question their patients' life circumstances, social, economic and family factors which contribute negatively to their wellbeing (Madsen, 2015). What if society truly does not ensure safety and satisfaction of basic needs, as social contract postulates? Isn't the pressure to lead a happy and fulfilled life despite all the terrible circumstances too much of a burden for one person?

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ТРАНСФОРМАЦИЈА КОНЦЕПТУАЛИЗАЦИЈЕ САМОУБИСТВА КРОЗ ВЕКОВЕ У ЕВРОПИ

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Резиме

Самоубиство, попут других појава повезаних са животом и смрћу, од давнина заузима посебно место у друштвеном дискурсу. Иако виђено као индивидуални чин, дело појединца, самоубиство јесте предмет друштвене конструкције. Начин на који се самоубиство конструисало од антике до данашњице имало је утицаја на особе са суицидалним тенденцијама саме, њихову спремност да потраже помоћ, као и на то како ће особе које јесу починиле самоубиство бити виђене и друштву, шта ће се догодити са њиховим посмртним остацима, имовином, породицом. Иако ретко одобрано, самоубиство се историјски највише осуђује у периодима ратова, успостављања новог друштвеног уређења, у периодима када људство које би одржало друштво недостаје. Санкционисање самоубиства строже је уколико је државно уређење такво да људски живот представља као нешто што је неопходно сачувати за потребе владара или чиме располаже једино Бог, наспрот уређењима где је човек представљен као власник сопственог живота.

Античка грчка концептуализација самоубиства варира у зависности од филозофских школа, са толеранцијом према самоубиству када живот није достојанствен или не пружа задовољство. Римске идеје разликују се, нарочито узимајући у обзир чињеницу да је људство било неопходно за одбрану Царства, а животе није требало улудо трошити.

Средњовековно хришћанство самоубиство види као јерес, чин против Бога, природе, и друштва, и строго санкционише самоубице и њихове ближње. Ипак, кроз исповест нуди олакшање особама у болу.

Ренесансно интересовање за антику и преживљене страхоте нагоне већем вредновању живота, али и већем интересовању за смрт – загробни живот не види се као циљ, а човек полако овладава својим животом. Кроз ренесансу и просветитељство самоубиство се представља као медицински проблем, који, везан за тело, може бити решен деловањем на тело – суицидални пате од вишка црне жучи, за чији дисбаланс се нуде бројне медицинске интервенције.

Након великих револуција у 18. веку, традиционално праћених осудом самоубиства, 19. век са Диркемом и 20. век са Фројдом премештају проблем самоубиства на друштвени и психолошки план. Статистика је омогућила детаљније

разматрање ризичних група, периоде када су самоубиства учесталија, те типологију самоубиства у социјалном контексту. Психолошке теорије које их смењују и настављају да доминирају до данашњице нуде сопствене предлоге и решења – терапију разговором, употребу лекова, поновно повезивање са заједницом.

Упркос новопонуђеним решењима, и данашње теорије остављају простора за побољшање. Иако су фактори ризика разматрани, шири социјални проблеми који доприносе очају суицидалних особа остају нерешени, а третиране су особе које су подстицане да исте трпе и са њима се херојски суочавају. Самоубиство је одувек представљало друштвени проблем, а пребацивање терета на индивидуу која је поклекла пред тешкоћама омогућава одржавање статуса кво.

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- **Abstract in Serbian**, followed by 5 key words.
- The paper should follow the **IMRAD** structure (Introduction, Methods, Results and Discussion), when it presents an empirical study
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Each paragraph should have the first line indented (1 cm).

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To explain how “culture through language affects the way we think and communicate with others of different background” (Gumperz, 2001, p. 35), Gumperz states:

“Conversational inference is partly a matter of a priori extra-textual knowledge, stereotypes and attitudes, but it is also to a large extent constructed through talk” (Gumperz, 2001, p.37).”

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Heschl, A. (2001). *The intelligent genome: On the origin of the human mind by mutation and selection*. New York, NY: Springer-Verlag.

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(Lenzenweger & Hooley, 2002)

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