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Relationship between Human Capital and National Culture

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The paper presents an insight into the relationship between the dimensions of national culture defined by Hofstede and human capital (HC) measured by the Global Human Capital Index (GHCI) regularly measured by World Economic Forum. The study is based on the data available on the Internet. Statistical analysis was performed on the sample of 89 countries presenting a regression model which shows that a significant positive relationship exists between the Long Term Orientation versus Short Term Normative Orientation (LTO), Individualism versus Collectivism (IDV) and Masculinity versus Femininity (MAS) on the side of national culture and GHCI as the indicator on the side of the HC. Besides, in the study, we recognize groups of countries with similar cultures which may be positively or negatively related to the HC, its development and deployment, that may also act as a mediator affecting the economic performance of a country. The findings of the study give an insight into factors that may affect long term performance not just of a country but also business organisations in a country. We believe that individualism, long-term orientation and minimisation of excessive competition in a society or an organization may be of great importance.

Key words: national culture, human capital, the performance of national economies
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Introduction

Human capital (HC) is supposed to be a predictor of the long-term success of national economies. On the other hand, national cultures may be a vital factor in promoting or obstructing the development of HC in a country. Because of such relationships, we believe, that, in general, the economic success of a country seems to be somehow predefined also by its national culture. This way, HC may play a mediating role between the national cultures and the countries' performance. However, in the literature, there are very few researches investigating the direct relationship between the concepts of national culture and human capital. Most of the research relates to

migration issues and entrepreneurship, and examines, for example, entrepreneurial behaviour because of migration in a country with different culture compared to the source country.

The paper aims to (i) check the relationships between different dimensions of national cultures and HC, and (ii) recognize groups of countries with similar cultures and (iii) link those groups with human capital as a predictor of their future economic performance. In this paper, statistical analysis will be conducted to identify the extent and direction of influences the culture might have on human capital, its development and deployment.

In the first part of the article, concepts of human capital and national culture, as well as the approaches of their measurements, are presented. In this part of the paper, the relationships between both concepts are also investigated and presented. In the second part of the paper, research methodology is explained together with the data sources and statistical methods used in the analysis. In the last part of the paper, the results of the statistical analysis are explained discussed.

Human Capital

The concept of human capital has its origins in economic literature. Becker (1964), for example, defined it as the knowledge, information, ideas, skills, and health of individuals. On the other hand, psychologists tend to equate HC not only to ingredients such as knowledge or health, but also abilities and other characteristics of individuals (Ployhart and Moliterno 2011). As Armstrong summarises (2010), HC can be defined as a sum of all human capabilities – congenital or acquired characteristics that can be developed by appropriate investments (Armstrong 2010).

Many definitions of HC focused on the individual level, but the construct has also been studied from a unit-level (team, organisation or even country). As Wright and McMahan (2011) state, the economic approach to human capital begins with individuals but does not limit itself to individual analysis. Much of the economic attention directed to HC has been exploring how aggregated HC (e.g., education of the workforce) impacts country productivity and its economic success. HC can be therefore treated also as the economic value of employees or the economic value of their capabilities. Namely, it is considered that education, experience, and skills of employees have economic value for the employers as well as for the entire societies.

Folloni and Vittadini (2010) note that HC has several sources linked not only to formal education and training but also to culture, family

background, social context as well as innate and non-cognitive abilities and skills. Bassi and McMurrer (2006) see HC as a productive capacity embedded in the people. Svetlik and Zupan (2009) recognize it, in addition to organizational capital and social capital, as an integral part of enterprises' intellectual capital. They note that HC incorporates elements such as knowledge, skills, abilities, values, attitudes, beliefs, expectations, as well as health. Folloni and Vittadini (2010) understand HC as a 'non-observable variable' obtained through an ad-hoc combination of a set of indicators concerning the results of an investment in education and terms of working ability.

HC can be divided into general and specific capital (Swart 2006; Wright and McMahan 2011). The general one is created mainly outside the organization, and individuals themselves cover most of the cost of its production. The creation of general HC is related mostly to education and schooling. On the other hand, creating specific human capital is directly related to the individual's experience, the number of specific projects that this individual is involved in, etc. It contains predominantly tacit knowledge, which can significantly hinder knowledge transfer (Edvinsson and Malone 1997) both among people in units (teams, organisations, countries) as well as in the direction of organizational capital creation, e.g., databases, manuals, norms and rules, etc. This way, the tacit components of HC may hinder further development of HC as well as other components of intellectual capital. Knowledge management represents a necessary means of promoting knowledge transfer at individual, organizational or societal level, and even more, it represents an essential part of human capital since it helps to implement the skills of localization, acquisition, development, transfer, codification, as well as the use of human capabilities (Paliszkiewicz 2010).

Literature reports that HC is directly as well as indirectly linked to the long-term success of individuals, organizations, and society. Weaver and Habibov (2012) found in their research that HC in the form of education and a favourable health condition has a more significant impact on individuals' income than any other social capital variable. HC defined as skills and qualifications, and to a lesser extent, personal wealth defined by behavioural characteristics, are considered critical determinants in gaining employment or career advancement (Brook 2005). Oliver (2001), Wiig (2007), Kwon (2009), and L'Angevin and Laïb (2005) list several studies indicating the impact of several aspects of HC development on the success of organizations. They find, for example, that the top 250 of 500 world-class companies with the highest investment in employee training achieve

approximately 86% higher ROE than the rest of them, Motorola earns 33 dollars per dollar invested in the training, e-learning brings 40% to 60% of operating savings for a company, etc. The same authors note that, at a country level, a 10% increase in the level of education brings 4.9% to 5.9% increase in overall productivity, an increase of schooling years on average for one year brings a 7% increase of GDP, a 1% increase in literacy among adults leads to a 2.5% increase of the individual performance as well as a 1.5% increase in GDP. Florida and Lee highlight the impact of creativity and diversity on innovation, measured by the number of patents per capita, and considering factors such as the differentiation of human capital (Florida 2010). Karasek and Dermol (2015) in their study finds a strong correlation between the size of the creative class that reflects the scale of human capital in an environment, and regional innovation as well as some innovation indicators such as the number of patents and the rights of design protection granted to domestic economic operators.

There are various approaches to asses human capital at the organisation level or the level of society. Among those, it is worth highlighting, for example, OECD, which regularly performs a series of interlinked research in this area (see https://data.oecd.org/education.htm), the Global Human Capital survey conducted by the World Economic Forum (Schwab 2018), United Nations Development Program titled Human Development Index (see http://hdr.undp.org/en/composite/HDI), Euro Plus Monitor (Schmieding 2015).), etc. In this article, human capital will be conceptualized and operationalized, according to the Global Human Capital Index (GHCI). The index includes the following dimensions of human capital: (i) capacity, which mainly relates to the educational level of the population and various literacy; (ii) deployment, based on the idea that human capital is created, and that it includes working experience of a part of the population involved in economic activities; (iii) development, which includes aspects of education, study effectiveness and (iv) know-how that provides for the element of adequate competence of the population.

National Culture

The concept of a culture can be defined as the way things are done in a social context. Culture is, therefore, typical of the organization – habits, prevailing attitudes, as well as the patterns of adult behaviour either anticipated or accepted (Drennan 1992). Kroeber and Kluckhohn (1952) note that culture is taught to be based on symbols and includes typical ways of behaviour, emotion and human reaction. Williams, Dobson, and Walters (1993) note that culture is generally

present and based on relatively stable and long-term beliefs, attitudes, and values. Morgan (1986) points out that culture is a means of creating organized activities by which it is possible to influence the language, the norms, the customs, the ceremonies and other social practices of communicating the fundamental ideology, as well as the values and the beliefs which direct human activity. Hoefstede (2001) defined national culture as 'the collective programming of the mind, which distinguishes members of one group or category from the people from other groups.' Kymlicka (2015) wrote that national culture is a consequence of a desire to promote some collective national identity among citizens.

From its definition of national culture for many years, Hofstede (see https://www.hofstede-insights.com) collected and analysed the data from which he produced cultural profiles of 100 countries. The culture of these countries is defined in terms of six dimensions – Power Distance Index (PDI), Individualism versus Collectivism (IDV), Masculinity versus Femininity (MAS), Uncertainty Avoidance Index (UAI), Long Term Orientation versus Short Term Normative Orientation (LTO), and Indulgence versus Restraint (IND). As describes on his website, PDI 'expresses the degree to which the less powerful members of a society accept and expect power to be distributed unevenly,' IDV can be defined as 'a preference for a loosely-knit social framework in which individuals are expected to take care of themselves and their immediate families, "MAS" represents a preference for the society for achievement, heroism, assertiveness, and material rewards for success [which means that] the society at large is more competitive.' UAI 'expresses the degree to which members of a society feel uncomfortable with uncertainty and ambiguity.' LTO bases on the idea that society must maintain some links with its past while addressing the challenges of present and future; however, the proportion of both directions may differ. IND 'stands for a society that allows relatively free gratification of basic and natural human drives related to enjoying life and having fun.'

Relationship between National Culture and Human Capital

From the above considerations, it may be induced that there exists a connection between the national culture and the country's HC leading to country performance. The culture defines the extent of learning activities in an organisation or a country, the size of knowledge transfer, trying out new things and experimenting, innovation, etc. which all lead to HC creation. Logically, the links may also be directed in the opposite direction.

Liebowitz (2008), for example, describes the relationship or even high correlation between knowledge management on one side and organizational and national cultures on the other. He lists various research findings indicating such links or even positive impacts on organisational performance. As we mentioned earlier, knowledge management reflects the amount of HC in an individual organisation as well as the activity of producing it. Jashapara (2011) in his book on knowledge management summarizes findings based on the research stemming from Nonaka's concept of knowledge-creating organisation. He states that the best area for optimal performance of knowledge management is located somewhere in between the cooperation and competition promoting organizational cultures. Chandan (2015) investigates the relationship between religiosity and economic growth. He finds out that the emerging economies with high growth rates include a variety of geopolitical regions representing many different religions, national cultures, and even 'no-religion' affiliation, and concludes, that faith alone is not sufficient to explain the higher economic growth. However, he continues that 'religious beliefs and cultural values related to work and social ethics are conducive to economic growth through entrepreneurship and organizational effectiveness.' Vinogradov and Kolvereid (2007) examined the relationship between national culture, human capital in the form of educational attainment in the country of origin and self-employment rates among first-generation immigrants in Norway. Their findings showed that immigrants from countries with low power distance are more likely to become self-employed. Nevertheless, other dimensions of cultural attributes, such as the uncertainty avoidance, masculinity/femininity and individualism/collectivism were not significantly associated with immigrants' self-employment rate. On the contrary, they found that educational attainment was significantly positively associated with self-employment among immigrants.

Research Methodology

The article aims to investigate the relationship between the dimensions of national culture and human capital in a country. In the empirical study, we step even a bit further since we assume a cause-effect relationship between the national culture and the human capital. In the model, presented in figure 1, we visualise the research model.

Since we base our study on Hofstede's model of national culture, we assume that different cultural dimensions differently relate to the construct of human capital. By examining the relationships between

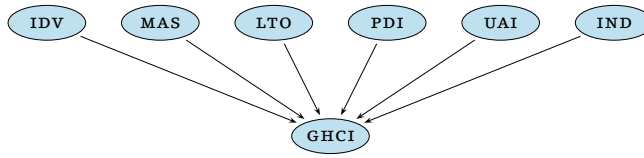

FIGURE 1 Model of Relationships between National Culture and Human Capital

the cultural dimensions and human capital, we intend to identify the cultural dimensions increasing or reducing the counties' performance potential as well as the groups of countries sharing a similar culture and possibly the same potential for future economic performance.

In the analysis, we used two sets of data belonging to 89 countries. Human capital was operationalized by the variable of Global Human Capital Index available on the web pages of World Economic Forum, and dimensions of national culture which are operationalized by the variables accessible on the web page of Hofstede's Insights (see https://www.hofstede-insights.com/models/national-culture/). In the analysis, we performed statistical calculations based on one variable (GHCI) operationalising the human capital, and six variables operationalising the national culture (PDI, IDV, MAS, UAI, LTO, and IND). All the variables were interval variables. In the analysis, we used two statistical methods: linear regression analysis and hierarchical cluster analysis. Statistical analysis was done with the use of IBM's SPSS.

Results

RELATIONSHIP BETWEEN CULTURAL DIMENSION AND HUMAN CAPITAL

The multiple regression analysis was carried out to investigate whether the six dimensions of national culture construct, defined by Hofstede, could significantly predict the Global Human Capital Index as the variable representing the amount of human capital in a country. As we already noted, in figure 1, the regression model is visually presented. Before we conducted the linear regression analysis, we also checked the assumptions of normality, linearity, homoscedasticity, and absence of multicollinearity. The tests showed that all the assumptions were met; therefore, we proceeded with the analysis.

The results of the regression analysis indicate that the model explains 62.8% of the variance and that it may be a significant pre-

dictor of the human capital index, $F(6, 64) = 17.99$, $p < 0.001$. As the analysis showed, only three dimensions of cultural dimensions seem to be statistically significantly related to human capital. The results of the analysis indicated, that while the culture dimensions IDV ($\beta = 0.30$, $p < 0.05$), MAS ($\beta = -0.18$, $p < 0.05$) and LTO ($\beta = 0.55$, $p < 0.001$) contribute significantly to the model, dimensions PDI ($\beta = -0.23$, $p = 0.06$), UAI ($\beta = 0.03$, $p = 0.72$) and IND ($\beta = 0.19$, $p = 0.054$) do not. Among the dimensions significantly related to human capital, LTO seems to have a relatively strong positive effect, IDV relatively modest but positive effect; on the other hand, MAS is related negatively and relatively weakly. Due to the p-value close to 0.05, the dimension of IND may also partly be positively related to the national culture.

The following equation presents the final predictive model:

$$\begin{aligned} \text{GHCI} = {} & 58.591 - 0.079 \times \text{PDI} + 0.09 \times \text{IDV} - 0.7 \times \text{MAS} + 0.01 \times \text{UAI} \\ & + 0.17 \times \text{LTO} + 0.06 \times \text{IND} \end{aligned}$$

GROUPS OF COUNTRIES WITH A SIMILAR CULTURE

In the second step of the analysis, we also performed a hierarchical cluster analysis. In the analysis, we only included variables defining the dimensions of the national culture of the countries. As the method, we used Ward's method with squared Euclidean distance as a measure. In table 1, we present the results that arise from the dendrogram created by SPSS. From the table, we can identify six different groups of countries sharing similar cultures but having significant differences towards other groups. In the table, we additionally present the value of GHCI for each group as well as the average values of groups' cultural dimensions.

From the results of the analysis, we can see that the group with the highest GHCI (group no. 1) contains countries with the highest value of IDV dimension – firm individualistic orientation, but slightly lagging in terms of long-term orientation as well as the Masculinity versus Femininity dimension. For the second-ranked group of countries, the most significant weakness seems to be the Masculinity versus Femininity dimension, since this dimension is rated almost as the highest among all the groups, otherwise, these countries are strongly long-term oriented with quite strong individualistic cultural dimension. On the other hand, the group with the lowest GHCI seems to be group no. 6. From table 1, we can realise that this group of countries contains countries that share quite active collectivistic cultures that are also highly masculine and very short-term oriented. Groups no. 3 and no. 4 both lag behind the best-ranked groups re-

TABLE 1 Groups of Countries with Similar Cultures

Group of countries	IDV	MAS	LTO	PD	UAI	IND	GHCI*
1 Norway, Finland, USA, Denmark, New Zealand, Sweden, Netherlands, Canada, Ireland, Australia, UK, and South Africa	76,8	41,6	37,8	33,3	44,0	67,3	72.5
2 Switzerland, Germany, Austria, Belgium, Japan, Czech Republic, Luxemburg, Poland, Italy, Hungary	64,5	69,3	67,8	46,0	77,3	44,3	71.3
3 Slovenia, Thailand, Malta, Spain, Portugal, Greece, Argentina, Chile, Uruguay, Peru, Turkey, Brazil, Salvador, Egypt, Iran, Tanzania, Morocco	33,6	41,7	31,2	63,4	82,5	48,2	61,5
4 Singapore, Malesia, China, Slovak Republic, Philippines, Indonesia, Vietnam, Saudi Arabia, Albania, India, Bangladesh	27,0	60,5	53,1	85,3	45,2	34,8	62,6
5 Estonia, Russia, Ukraine, Lithuania, South Korea, Latvia, Bulgaria, Croatia, Romania, Serbia	39,0	32,5	70,0	69,0	81,0	20,9	69,1
6 Trinidad and Tobago, Columbia, Mexico, Ghana, Venezuela, Dominican Republic, Nigeria, Mozambique	33,6	41,7	31,2	63,4	82,5	48,2	57,7

NOTES 18 countries are missing due to missing values. * Average.

garding all three dimensions – the individualism as well as the long-term orientation and Masculinity versus Femininity. However, group no. 5, the third best-ranked group, leads in the dimension of long-term orientation as well as in the dimension of Masculinity versus Femininity; however, it lags considerably in the dimension of individualism.

Discussion and Conclusions

From the results of the regression analysis, we can anticipate that national culture may be strongly associated with the know-how in a country, as well as the capacity, the development and the deployment of HC in a country. Assuming cause-effect relationship, we can conclude that national culture with some of its dimensions significantly influences human capital in a country, and through intellectual capital as a mediator, especially from the long-term point of view, also predict the prosperity and economic performance of a nation. From

the analysis, we can assume that cultures which are individualistic, long-term oriented and not extremely masculine, may have a better position leading to the development and deployment of HC at the level of a country.

The most substantial positive impact on human capital appears to have Long Term Orientation versus Short Term Normative Orientation dimension, and in the second place, Individualism versus Collectivism. On the other hand, Masculinity versus Femininity seems to have a slightly negative influence on human capital. From the model which our data confirmed, we assume that countries in which the culture supports long-term, strategic thinking combined with strong individualism. Still, without extreme achievement orientation, heroism, or dependence on material rewards, will probably be more successful than the other ones.

There are two cultural dimensions for which we cannot recognize any significant influence on human capital – Uncertainty Avoidance and Power Distance. On the other hand, according to our findings, we believe that Indulgence versus Restraint may be the cultural dimension, which may also partly be related to human capital in a country. It seems that countries which are too restraint, with many rules and norms, do not develop human capital to the extent of more indulged countries. This limitation may be evident, especially in the countries belonging to the group no. 5.

From table 1, we can somehow confirm our assumptions stemming from the regression analysis. The groups with the highest human capital indexes (groups 1 and 2) consist of countries in which individualistic and long-term oriented cultures prevail. Group 5 lags minimally behind the two leading groups. It seems that it is the Masculinity versus Femininity dimension, which slightly reduces the HC potential of the countries in this group. On the other hand, group no. 6 shows the lowest human capital index. All the cultural dimensions that significantly affect human capital seem to be considerably worse than in the leading groups. However, this group and the group no. 3 achieve the highest Uncertainty Avoidance Index leading to feelings of uncertainty and ambiguity.

The limitations of the study relate mostly to the data. The source of the data on cultural dimensions is the database on Hofstede's Insights webpage which may not be as precise and reliable as one would want, besides, in the case of larger countries it may be impossible to define only one culture profile per country. Because of such considerations, some examples are arising from the findings of the analysis, which cause some doubts about the results of the study.

However, the results at a general level, give handy insights for further investigation of the relationships between the national cultures and human capital.

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Dynamics of Enterprises in the Slovenian Textile Industry

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The article deals with the dynamics of reducing the size structure and the number of employees in large and medium-sized textile enterprises, which influence the entry of new micro and small enterprises into the Slovenian textile industry. Before the Slovenian independence in 1991, the Slovenian textile industry was considered to be a strong labour-intensive industry, with 69,454 employees in 1990, while in 2017 it counts only 9,800 employees. In analysing the dynamics of enterprises in the textile industry, we use enterprise accounts data on micro, small, medium and large enterprises in the period from 2006 to 2017. The research contributes to a detailed insight into the restructuring process of the Slovenian textile industry by significantly reducing the number and size of large and medium-sized textile enterprises, which were uncompetitive, rigid, inflexible and time-consuming compared with global manufactures of textile products and exits, and relatively small entry of new micro and small enterprises. The research addresses a narrower scientific field in the textile industry, which is concerned with reducing the size and age of enterprises resulting from the exit of large and medium enterprises in the textile industry and the creation of new micro and small enterprises within the industry.

Key words: dynamics of enterprises, entry of enterprises, exit of enterprises, textile industry, Slovenia
https://doi.org/10.26493/1854-4231.14.185-203

Introduction

The paper deals with the narrower scientific field of dynamics of reducing the size and age of large and medium-sized textile companies, which influence the entry of new micro and small enterprises into the Slovenian textile industry in the period from 2006 to 2017.

The previous literature and data sources in the field of entry and exit of enterprises, employment and size of enterprises include the

entire manufacturing industry in Slovenia (Bojnec and Xavier 2004; 2005; 2007; Kocjančič and Bojnec 2010), while there is not available a specific study for the Slovenian textile industry. This has motivated our research, because the textile industry in Slovenia and in the Central and Eastern European (CEE) countries was important during the socialist period.

The research is based on theoretical knowledge and empirical analyzes on the dynamics, restructuring and transformation of the Slovenian enterprises and their survival (Bojnec and Xavier 2004; 2005; 2007; Kocjančič and Bojnec 2010), and enterprises in other countries, particularly emerging market economies (Cincera and Galgau 2005; Geroski, Mata, and Portugal 2003; Kaya and Üçdoğruk 2002; Ghosal 2003; Sönmez 2013; Geroski 1995; Dunne, Roberts, and Samuelson 1989).

The aim of the research is to find out how and to what extent changes in the size structure and age of large and medium-sized textile enterprises affect the dynamics of new micro and small enterprises in the textile industry in response to the drastic decline in the number of large and medium-sized enterprises in the textile industry or restructuring large and medium-sized enterprises. The main thesis of the research is tested with the set of two research hypotheses. The results of the empirical research using secondary data are presented for large, medium, small and micro Slovenian textile enterprises in the period from 2006 to 2017. On this basis in the concluding part of the paper are presented our conclusions and some suggestions.

Theoretical Background

The entry and exit rates of enterprises vary widely from industry to industry. Enterprises entry and exit is part of the market selection process, by which assets are distributed across industries and promote the introduction of new technologies, which affects economic performance.

Audretsch (1991) found that survival rates vary widely across the industries and they were shaped by conditions of the industry which depend on technology and demand conditions. The dynamic of entry and exit of enterprises from the market is determinant by several factors at the level of the enterprises, industries, and countries. It can also driven by entry and exit barriers and strategies to deter entry and exit of the enterprises from the market.

European Commission (2005) investigated the impact of product market reforms on entry and exit of enterprises. There were found

two effects: internal restructuring, which refers to the productivity growth of individual enterprise present in the industry, and external restructuring, whereby the market selection procedure leads to a reallocation of resources between enterprises. The change in the entry and exit of the enterprises consequently affects the macroeconomic results.

The analyses of the dynamics of entry and exit of enterprises shows that a large number of enterprises enter and exit the markets every year. The most difficult period for a new enterprise to survive is the early years. About 30 to 40 percent of new entering enterprises do not survive the first two years. The likelihood exit of the new enterprise is highly skewed towards small and micro units, while the surviving enterprises are not only larger but also growing faster (Scarpetta et al., 2002).

Newly established small enterprises are an important driver of innovation and job creation, indispensable for long-term economic growth and economic prosperity (Birch 1979; Carlsson 1999; Haltiwanger, Jarmin, and Miranda 2013). Based on an analysis of the dynamics of newly-established enterprises in the United States, Haltiwanger, Jarmin, and Miranda (2013) found that the newly established enterprises grow faster than mature-older enterprises, whereby newly established enterprises have much more likely of exit rate. In general, the newly established enterprises are more volatile and show higher levels of gross job creation. Small enterprises have a shorter life expectancy, lower productivity, and they pay lower wages and provide less job security than large enterprises. Two main reasons that confirm the important role of small enterprises are efficiency and dynamics, as some small enterprises do some things better than large enterprises (Carlsson 1999).

The research of dynamics of enterprises in the manufacturing sector in Slovenia clearly shown that the volatility of corporate dynamics was greater than the volatility of labour dynamics, except at a very early stage of institutional change with the internal transformation of traditional social enterprises, the corporate entry rates were higher than enterprises exit rates (Bojnec and Xavier, 2005).

Geroski (1995) justified the age of the enterprises with the obtained experience in the market, which may be more important than its size, because older enterprises are less likely to be closed down.

Newly established enterprises were on average smaller, but more dynamic than traditional large enterprises and invest more in new equipment and machinery (Bojnec and Xavier 2004). Moreover, Bojnec and Xavier (2005) noted that most manufacturing industries

were traditional ones that were considered to be declining in the developed countries, because they often experienced a lower value-added per employee and/or decreasing demands. They were developed on the basis of local labour (leather, footwear, and textile industry) or they were created during the socialist development, after the Second World War (metal and similar industries).

The research of the dynamics of enterprise entry and survival in Portugal in the period from 2005 to 2012 found that around 41 percent of newly established enterprises survived throughout the sampling period observed, whereby the survival rate did not depent on the enterprise's economic activity sector (Félix 2017).

There is a greater likelihood of survival and higher growth rates for newly established enterprises related to the adaptation and ability to market adjustment with a viable product (Audretsch 1995). Moreover, Audretcsh (1995) argued that the only two traditional structural barriers can impede survival: economies of scale and product differentiation. They are not permanent and weaken when the entrepreneur gains experience in the industry, or at least with the age of an enterprise when the time period after the enterprise's entry increases.

The comparative research conducted by Jelili and Goaied (2009) based on the complete capture of the Tunisian manufacturing sector data from the business registry. The research is based on the calculation of a series of data on the number of entries (newly-established enterprises) and exits and the total number of enterprises with more than 10 employees, by years and industry, in the period from 1996 to 2004. The size of the enterprises was crucial in the analysis of exit rates, for several reasons: first, that smaller enterprises had more potential for expansion and their 'small size' can mean more entry and exit, as well as more growth for successful enterprises after entry. Second, the sector specificity of a given country in newer industries, where mixing is usually larger and more enterprises experiment with different technologies.

On the basis of the literature review, we raised a research question concerning the reduction of the size and age of textile enterprises and the dynamics of entry of new micro and small enterprises and the exit of large and medium-sized textile enterprises in the industry. The main thesis of the research is that the entry of micro and small enterprises into the textile industry is related to the exit and restructuring by reducing the size and age of the existing enterprises in the textile industry and that the survival of enterprises in the textile industry is an indicator of business success.

The main thesis is tested with the set two hypotheses:

H1 *The entry rate of micro and small textile enterprises increases with the decreases in the number of large and medium-sized textile enterprises and the survival rate of the existing large and medium-sized textile enterprises.*

H2 *The exit rate of medium and large textile enterprises decreases as value-added per employee and enterprise performance expressed by the* EBITDA *indicator increases.*

Stylized and Empirical Data Facts

DYNAMICS OF ENTERPRISES IN THE COUNTRIES OF THE EUROPEAN UNION

Between the period 2008 and 2017, the gross value added generated by small and medium-sized enterprises (SMEs) in the EU-28 increased cumulatively by 14.3% and employment in the SMEs increased by 2.5%. Developments in the EU-28 member states differed. In the EU-6 member states (Croatia, Cyprus, Greece, Italy, Portugal and Spain), gross value added in the SMEs in 2017 was still below that in 2008 levels. In the EU-15 member states Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, France, Greece, Ireland, Italy, Latvia, Lithuania, Portugal, Romania, Slovenia, and Spain) the employment rate in the SMEs in 2017 did not reach the level of 2008. In all EU-28 member states, the SMEs have made a significant contribution to the recovery and further expansion of their economies over the period 2008–2017. Their contribution largely exceeded expectations based on their relative importance in the economy. Between 2008 and 2017, the number of the SMEs in the EU-28 member increased by 13.8%. The number of newly-established SMEs exceeded the actual increase in the SME population due to the high rate of non-survival of the existing SMEs, especially among young enterprises. Each new SME that survived in the period 2012–2015 required nine SMEs that did not survive (European Commision 2019).

MICRO AND SMALL INDUSTRIAL ENTERPRISES IN SLOVENIA

The previous research on the corporate sector and entrepreneurial dynamics has largely focused on developed market economies. However, there is a growing interest in exploring entrepreneurship and dynamics of enterprises in emerging market economies, including in Slovenia (Bojnec and Xavier 2004; 2005; 2007; Rebernik, Tominc, and Pušnik 2006; Kocjančič and Bojnec 2010).

TABLE 1 Dynamics of Newly Established Micro and Small Enterprises in the Slovenian Industry in the Period from 2006 to 2016

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
(1)	789	688	873	869	877	960	1327	1981	1310	1085	1131
(2)	201	249	309	297	309	309	319	314	335	297	293
(3)	22	27	24	24	28	28	35	41	48	38	38
(4)	12	12	17	3	6	161	22	19	12	17	15
(5)	1024	976	1223	1193	1220	1313	1703	2355	1705	1437	1477

NOTES Row headings are as follows: (1) micro enterprise (0 employees), (2) micro enterprise (1–4 employees), (3) micro enterprise (5–9 employees), (4) small enterprise (10+ employees), (5) total number of micro and small enterprises. Based on data from SORS (see http://pxweb.stat.si).

TABLE 2 Dynamics of Exit of Micro and Small Enterprises in the Slovenian Industry in the Period from 2006 to 2016

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
(1)	668	565	686	760	861	662	808	910	1006	1127	784
(2)	225	222	246	283	306	293	332	346	278	271	290
(3)	17	10	12	19	22	15	17	17	18	26	27
(4)	9	9	13	13	15	9	14	17	11	10	29
(5)	919	806	957	1075	1204	979	1171	1290	1313	1434	1130

NOTES Row headings are as follows: (1) micro enterprise (0 employees), (2) micro enterprise (1–4 employees), (3) micro enterprise (5–9 employees), (4) small enterprise (10+ employees), (5) total number of micro and small enterprises. Based on data from SORS (see http://pxweb.stat.si).

In 2006, according to the standard activity classification (SAC), the classification for activities from mining (C) to water supply, sewage, and waste management, environmental remediation (E) was 1024 newly established micro and small enterprises with a survival rate of 71.4% after one year and 77.4% after two years of operation (table 1). In 2007, 976 newly established micro and small enterprise was registered, which increased to 1477 in 2016. As can be seen from table 1 and table 2, the number of newly established micro and small enterprises in the Slovenian industry in the observed period is greater than the number of their exits, which means an increase in the number of micro and small enterprises in the Slovenian industry.

This finding applies only to micro enterprises with zero employment, with the exception for the number of newly-established micro-enterprises with zero employment in the year 2015, when the exit of micro-enterprises with zero employment was 3.7% higher than the number of newly-established enterprises.

RESTRUCTURING OF THE TEXTILE INDUSTRY

Textile production has been at the heart of European manufacturing production since the start of the industrial revolution. Despite considerable offshoring in lower-cost countries over the last few decades, the European textile sector still accounts for 2.4% of the EU manufacturing employment and 1.4% of the EU production value-added. They are mostly organized as SMEs that are both traditional and modern. These SMEs find it difficult to allocate the finance and human resources needed to evaluate the ability to purchase advanced machines and improve skills required. In addition, some activities in the sector, especially sewing, are difficult to automate. The sector also faces technical barriers to standards for the widespread use of technical textiles and suffers from the loss of traditional skills and difficulties in acquiring new knowledge (European Commission 2015).

THE TEXTILE INDUSTRY IN SLOVENIA

The Slovenian textile industry has been known as a highly labor-intensive industry with several smaller enterprises and a more intense market dynamics with the entrances and exits of enterprises. Labor-intensive industries, including the textile industry, exhibited greater dynamics of entry for new micro and small enterprises than exits, resulting in a high concentration of enterprises in the industry, which had an impact on the poorer business results of enterprises and, consequently, later greater dynamics of exit of enterprises in the industry (Bojnec and Xavier 2004; 2005; 2007).

The Number of Enterprises within the Textile Industry (C13, C14, C15) over the Period 2006–2017

Table 3 shows the number of all registered enterprises within the textile industry (C13, C14, C15), which are obliged to submit annual reports in accordance with the law and to make public the annual reports and other data of enterprises, sole proprietors and other business entities in accordance with Companies Act and Other Laws by the Agency of the Republic of Slovenia for Public Legal Records and Related Services (AJPES).

As can be seen from table 3 the largest share of the textile enterprises was recorded in the activity Manufacture of clothing (C14), with 50% share of all textile enterprises in Slovenia, followed by the Manufacture of textiles (C13) with 38% share and Manufacture of leather and leather related products (C15) with 12% share of all enterprises in the observed period. The largest decrease in the num-

TABLE 3 The Number of Enterprises within the Departments of Activity in the Textile Sector During the Period 2006–2017

Activity	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
C13	218	223	162	158	152	141	143	141	143	146	158	147
C14	252	244	267	232	229	215	202	191	193	186	180	176
C15	68	67	49	47	45	45	44	45	46	46	47	53

NOTES Column headings are as follows: C13 – Manufacture of textiles/DB17, C14 – Manufacture of clothing/DB18, C15 – Manufacture of leather, leather and related articles/DC. Based on data from AJPES (see http://www.ajpes.si).

ber of enterprises in the textile sector in the observed period was recorded in the Manufacturing of clothing (C14), followed by a decrease in the number of enterprises in the activity Manufacture of textiles (C13), unlike in the section Manufacture of leather, leather and related departments (C15), which recorded the smallest decline in the number of enterprises over the observed period.

Methodology

The aim of the research is to determine, by selected analytical methods, how and to what extent the dynamics of reducing the size and age of large and medium-sized textile enterprises affect the entry of new micro and small enterprises into the Slovenian textile industry and the survival of companies in the textile industry business performance indicator. The research is based on data collected by the AJPES in the period from 2006 to 2017, previous professional and scientific literature in the field and use of descriptive and numerical statistical methods. For the analysis and presentation of the survey, the key features of the data are expressed using the descriptive method of statistics. Regression analysis analyzed the relationship between the dependent (explanatory) variable and one or more independent (explanatory) variables.

DATA

The entry and exit rates of the Slovenian textile enterprises are analyzed with company-level data, which include departments of activity: Manufacture of textiles (C13), Manufacture of clothing (C14) and Manufacture of leather, leather and related departments (C15). The data are compiled from the balance sheets of companies obliged by the AJPES to submit annual reports in accordance with the law and to publish publicly the annual reports and other data of enterprises, sole proprietors and other business entities in accordance with Companies and Other Laws for the period 2006–2017 and are part of the Fi = Po database, which serves as an analytical tool for business re-

view and in-depth analysis for 2019. The database represents the Slovenian textile industry, including all existing joint-stock companies, limited liability companies, unlimited liability companies, and limited partnerships.

Compared to previous research conducted by Bojnec and Xavier (2004), which covered the entire Slovenian manufacturing industry from 1994 to 2000, the data on the number of enterprises and the number of employees in micro-enterprises, are comparable. The data covered for the period 2006–2017 includes a number of very small textile enterprises. For the entire sample studied during the twelve-year period, the average number of employees in micro Slovenian textile enterprises is 5.6 employees, whereby the majority of enterprises were employing less than 10 employees. The small textile enterprises, which include 336 small textile enterprises on average employ 60 employees.

Therefore, our data is a very accurate picture of the Slovenian textile industry, which allows us to analyze market dynamics with micro and small enterprises, for which according to Mead and Liedholm (1998) there are several factors that would 'influence the patterns dynamics of enterprises.' These factors belong to the enterprises or operators of such enterprises. The practice of identifying and analyzing possible factors in both cases can serve at least two important purposes. First, the practice would help to identify the nature of dynamics of most SMEs and the specific characteristics of those involved in this economic sub-sector. Second, it can help policymakers to design appropriate policy instruments that would then guide government and stakeholders action aimed at effectively supporting and developing the SME sector.

The data are structured by years from 2006 to 2017 inclusive, allowing the entry and exit of textile enterprises to be investigated, and include the following variables: enterprise identification number, registration number of enterprise, enterprise headquarters address, enterprise name, number of employees in the enterprise, form of organizational structure of the enterprise (limited company, limited liability enterprise, unlimited liability enterprise and limited partnership), enterprise assets, enterprise capital, total revenues of the enterprise, net profit or net loss for the enterprise, value-added, value-added per employee and earning before interest, taxes, and depreciation (EBITDA).

CALCULATION OF ENTRY AND EXIT RATES

We first determine the entry and exit rates used in this article. We define an entrant in section j in period t as an enterprise that is in

activity in section j in period t but was not in activity in period $t-1$. On the other hand, an enterprise that exits the market in period t is an enterprise that is not in activity in period t in section j but was in activity in that section in the previous period ($t-1$). We use the enterprise identification number (ID). The rate of entry is calculated by dividing the total number of those enterprises entering section j in period t by the total number of enterprises in section j in period $t-1$. The rate of exit is calculated by dividing the total number of enterprises exiting section j in period t by total number of enterprises in section j in period $t-1$.

Entry and exit rates are calculated as follows:

$$\text{Entry rate} = \frac{\text{total number of new (entry) enterprises in section } j \text{ in period } t}{\text{total number of enterprises in section } j \text{ in period } t-1},$$

$$\text{Exit rate} = \frac{\text{total number of enterprises that exited in section } j \text{ in period } t}{\text{total number of enterprises in section } j \text{ in period } t-1},$$

where the entry rate is calculated by dividing the total number of those enterprises entering department level j in period t by the total number of enterprises at department level j in period $t-1$ and the exit rate is calculated by dividing the total number of enterprises exiting out from the industry level j in period t, divided by the total number of enterprises at department level j in period $t-1$.

As a data source, we use enterprise-level information provided by AJPES for analyzing dynamics of the enterprise, and enterprise size and size structure. This data source represents all enterprises operating in the observed period from 2006 to 2017 by enterprise ID. Therefore, entry and exit rates are calculated based on the enterprise ID, which is used as a criterion to determine if an enterprise has stopped its economic activity (if the ID is no longer in the sample), it has started the economic activity (the ID was not previously in the sample) or is still in economic activity (ID is still in the sample).

CALCULATION OF ENTRY AND EXIT RATES FOR THE SLOVENIAN TEXTILE ENTERPRISES

First, we introduce the entry and exit rates of enterprises in C13, C14 and C15 sections based on the AJPES data for the years 2007 to 2017. When entering the enterprises in the market, we checked whether

TABLE 4 Number of Enterprises, Number of Entry and Exit of Enterprises, Entry and Exit Rates of Enterprises, Exit/Entry Dynamics Index, Survival Index and Net Exit/Entry Index of Enterprises in the Sections C13, C14 and C15

Year	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
2007	534	60	62	11,15	11,52	−0.3	99	103
2008	487	103	158	19,28	29,58	−11.2	91	153
2009	437	48	89	9,85	18,27	−9.3	89	185
2010	426	58	69	13,27	15,78	−2.5	97	118
2011	401	42	66	9,85	15,49	−5.9	94	157
2012	389	47	60	11,72	14,96	−3.3	97	127
2013	377	38	49	9,76	12,59	−0.2	96	127
2014	382	44	40	11,67	10,61	1.0	101	90
2015	378	41	45	10,73	11,78	−1.0	98	109
2016	385	50	45	13,22	11,90	1.2	101	90
2017	376	65	67	16,88	17,40	−0.5	97	103

NOTES Column headings are as follows: (1) number of enterprises, (2) entry of enterprises, (3) exit of enterprises, (4) entry rate, (5) exit rate, (6) net entry/exit rate, (7) survival index, (8) net exit/entry index.

the enterprises that had been on the Slovenian market for the selected year existed on the same market already the year before. If the enterprises did not exist on the market a year earlier, those enterprises entered the market that year. The rate of entry of enterprises into the market is calculated as the ratio between the number of new (entering) enterprises and the number of all enterprises on the market in the previous observed year. At the exit of enterprises from the market, we checked whether the enterprises that were in the selected year on the Slovenian market in that market in also the following year. If the enterprises did not exist on the market in the following year, these enterprises have exited the market. The rate of exit of enterprises from the market is calculated as the ratio between the number of exiting enterprises from the market and the number of all enterprises on the market in the previous observed year.

Table 4 presents entries and exits of enterprises in the Slovenian textile industry in sections C13, C14 and C15. Net entry/exit rate of Slovenian textile enterprises is calculated as the difference between the entry and exit rates, which represents the difference between the number of new (entrances) enterprises and the number of exit enterprises in the observed year and the number of all enterprises in the observed year. The negative sign of the net entry/exit rate tells us that in a given year more companies left the market than they entered the market.

TABLE 5 Correlation Matrix between Three Pairs of Variables: The Entry Dynamics of Micro and Small Enterprises (ST_VSP), the Number of Medium and Large Enterprises (V_VSP), and the Survival Rate of Medium and Large Enterprises (V_MM)

Item		ST_VSP	P_VSP	V_MM
Pearson correlation coefficient	ST_VSP	1.000	−0.458	0.097
	P_VSP	−0.458	1.000	−0.441
	V_MM	0.097	−0.441	1.000
Significance (1-tailed)	ST_VSP	–	0.078	0.388
	P_VSP	0.078	–	0.047
	V_MM	0.388	0.047	–
N	ST_VSP	12	11	11
	P_VSP	11	11	11
	V_MM	11	11	11

NOTES Based on data from AJPES (see http://www.ajpes.si).

REGRESSION MODEL FOR HYPOTHESIS TESTING

The set two hypotheses are tested using correlation and regression analyses.

HYPOTHESIS 1 *For the purpose of testing the set hypothesis 1, the correlation and regression analyses are applied. Data were used for the entry rates of micro and small enterprises in the textile industry, the number of large and medium-sized enterprises in the textile industry, the survival rate of large and medium-sized textile enterprises, in the observed period from 2006 to 2017, in sections manufacture of textiles (C13), manufacture of clothing (C14) and manufacture of leather, leather and related articles (C15).*

The Pearson correlation coefficient shows that the association between the V_MM and P_VSP variables is −0.441, which means that a negative linear association between the variables exists and is medium to moderate (table 5). In the given case, there is a medium to the moderate negative correlation between the two variables. Statistical significance (Sig. 0.047) is less than 0.05, which means that statistical significance exists. We can conclude that the entry of micro and small textile enterprises into the market is related to the survival of large and medium-sized textile enterprises. The Pearson correlation coefficient between V_MM and ST_VSP variables is 0.097, indicating a slight positive association between the variables. The statistical significance (Sig. 0.388) is greater than 0.05, which means that the correlation between the variables is not statistically significant.

TABLE 6 Model Summary

R	R^2	Adjusted R^2	Standard error of the estimate
0.457*	0.209	0.011	3.13159

NOTES *Predictors: (constant), survival rate of large and medium-sized textile enterprises (P_VSP), and the number of large and medium-sized textile enterprises (ST_VSP).

TABLE 7 Anova

Item	Sum of squares	DF	Mean square	F	Sig,
Regression	20.668	2	10.334	1.054	0.392*
Residual	78.455	8	9.807		
Total	99.123	10			

NOTES *Predictors: (constant), survival rate of large and medium-sized textile enterprises (P_VSP), and the number of large and medium-sized textile enterprises (ST_VSP). Dependent variable: entry rates of micro and small textile enterprise (V_MM)

The multiple correlation coefficient is 0.457, indicating that the correlation between the independent variables and the dependent variable (entry of micro and small enterprises in the textile industry) is modest (table 6). The value of the multiple coefficient of determination is 0.209, indicating a weak explanation of the dependent variable with the independent variables in the regression model. The independent variables statistically significantly explain 21 percent of the variance of the entry of micro and small textile enterprises into the industry.

Table 8 present the estimated regression coefficients with the t-test value and the risk level. The results of the regression analysis indicate that the number of large and medium-sized textile enterprises and the survival rate of large and medium-sized textile enterprises have no statistically significant effect on the entry rate of micro and small textile enterprises. Therefore, the null hypothesis H1 that the entry rate of micro nad small textile enterprises increases with decreases in the number and survival rate of the existing large and medium-sized textile enterprises can be rejected.

TABLE 8 Regression Coefficient

Item	B	Std. error	Beta	T	Sig.
(Constant)	32.017	15.505		2.065	0.073
ST_VSP	−0.041	0.110	−0.133	−0.377	0.716
P_VSP	−20.676	14.574	−0.502	−1.419	0.194

NOTES *Dependent Variable: entry rates of micro and small textile enterprise (V_MM)

TABLE 9 Correlation matrix between three pairs of variables: dynamics of the exited of large and medium-sized enterprises (I_VSP), value-added per employee in large and medium-sized enterprises (DVZ_VSP), and profit before taxes, interest on loans, excluding depreciation in large and medium-sized enterprises (EBI_VSP)

Item		ST_VSP	P_VSP	V_MM
Pearson correlation coefficient	I_VSP	1.000	–0.421	0.417
	EBI_VSP	–0.421	1.000	0.398
	DVZ_VSP	0.417	0.398	1.000
Significance (1-tailed)	I_VSP	–	0.099	0.101
	EBI_VSP	0.099	–	0.100
	DVZ_VSP	0.101	0.100	–
N	I_VSP	11	11	11
	EBI_VSP	11	12	12
	DVZ_VSP	11	12	12

NOTES Based on data from AJPES (see http://www.ajpes.si).

TABLE 10 Model Summary

R	R^2	Adjusted R^2	Standard error of the estimate
0.757*	0.573	0.467	0.63379

NOTES *Predictors: (constant), survival rate of large and medium-sized textile enterprises (P_VSP), and the number of large and medium-sized textile enterprises (ST_VSP).

HYPOTHESIS 2 *To test the set hypothesis 2 using the correlation and regression analyses, we used the data on the exit rate of large and medium-sized textile enterprises, average value added per employee and average pre-tax profit, interest on loans, excluding depreciation (*EBITDA*) in large and medium-sized textile enterprises in each year, in the observed period from the year 2006 to 2017, in the* C13 *(textile production),* C14 *(clothing production) and* C15 *(leather, leather and related products) section.*

The Pearson correlation coefficient between the variables I_VSP and EBI_VSP variables is –0.421, indicating that the association between the variables is negative, medium to moderately strong. The level of significance (Sig. 0.099) is greater than 0.05, which means that the variables are not statistically correlated (table 9). The Pearson correlation coefficient between the variables I_VSP and DVZ_VSP is 0.417, indicating a positive, medium to moderate correlation. The significance level is less than 0.05, (Sig. 0.101), which means that no statistical significance exists.

The multiple correlation coefficient is 0.757, indicating that there

TABLE 11 Anova

Item	Sum of squares	DF	Mean square	*F*	Sig,
Regression	4.318	2	2.159	5.375	0.033*
Residual	3.213	8	0.402		
Total	7.531	10			

NOTES *Predictors: (constant), survival rate of large and medium-sized textile enterprises (P_VSP), and the number of large and medium-sized textile enterprises (ST_VSP). Dependent variable: entry rates of micro and small textile enterprise (V_MM)

TABLE 12 Regression Coefficient

Item	*B*	Std. error	Beta	*T*	Sig.
(Constant)	1.088	0.736		1.478	0.178
EBI_VSP	–0.928	0.339	–0.685	–2.735	0.026
DVZ_VSP	0.057	0.021	0.683	2.726	0.026

NOTES *Dependent Variable: entry rates of micro and small textile enterprise (V_MM).

is a good correlation between the independent variables and the dependent variable (table 10). The value of the multiple coefficient of determination is 0.573, which indicates that the independent variables statistically significantly explain 57.3 percent of the variance in the exited of large and medium-sized textile enterprises in the textile industry. The *F*-test value is 5.375. Significance level (Sig.) is 0.033, which is less than $\alpha = 0.05$. Therefore, it is statistically significant. Based on this, we conclude that the model has at least one statistically significant variable.

The regression model showed that the *t*-test value for both independent variables (value-added per employee in large and medium-sized textile enterprises and business performance of the enterprise) is less than the risk level $\alpha = 0.05$, so we can conclude that the variables have statistically significant influences the exit rate of large and medium-sized enterprises in the textile industry in Slovenia (table 12). However, the sign of the regression coefficient pertained to the variables DVZ_VSP is positive suggesting that higher value-added per employee increased the exit of the large and medium-sized enterprise. Therefore, the set hypothesis H2 can be rejected in this part.

Empirical Findings and Discussion

The survey showed that the number of large and medium-sized Slovenian textile enterprises decreased by about 70 percent over the observed period; the largest decrease in the number of large and

medium-sized textile enterprises was in the year 2009, by 34 percent compared to the base year 2006.

The results of the research show that the dynamics of newly established textile enterprises was highest in 2008. In the same year the dynamics of exit of enterprises from the market, was 35 percent higher than the dynamics of newly established textile enterprises in the industry, which was expected given the period of instability of the Slovenian economy and the general economic crisis.

The research found that the entry rate of textile enterprises was on average 3 percent higher than the exit rate of textile enterprises from the market in the observed period 2006 to 2017. In the year 2008, the entry rate of the textile enterprises was less than the exit rates of the textile enterprises by 10.3 percent, which is attributable to the unfavourable economic conditions and the large fluctuations in macroeconomic indicators. The smallest fluctuation in the difference between the rate of entry and the rate of exit of enterprises from the market was detected between 2014 and 2016; that is, in a time of favourable economic conditions and stability of the Slovenian economy. The results of the research show that the highest survival rate of the Slovenian textile enterprises was 1.2 percent in 2016, while was the lowest survival rate for textile enterprises was 0.89 percent in 2009.

The results of the correlation analysis show that there is a negative moderate relationship between the survival of large and medium-sized textile enterprises and the number of micro and small enterprises entering the textile industry. The results of the regression analysis show that the entry of micro and small textile enterprises into the industry is related to the survival of large and medium-sized textile enterprises. Based on the results of the regression analysis, we can conclude that the increased entry of micro and small textile enterprises into the market is reducing the survival of large and medium-sized textile enterprises. The exit rate of large and medium-sized enterprises in the textile industry decreases if the business performance of large and medium-sized enterprises in the textile industry increases. However, the level of exit rate of the large and medium-sized enterprises in the textile industry increases as the value-added per employee in the large and medium-sized textile enterprises increases, which is inconsistent with the set hypothesis 2.

Conclusion

The dynamics of entry of micro and small textile enterprises into the market has not been driven by the restructuring and reduction of the

number and rate of survival of medium and large textile enterprises.

The increased dynamics of exit of large and medium-sized textile enterprises is conditioned by the business failure of managing large and medium-sized textile enterprises. Value-added per employee did not reduce the exit of medium and large textile enterprise over the observed period. Value-added per employee increased, due to the reduction in the number of employees in textile enterprises as a result of the restructuring of the Slovenian textile industry. The research shows that favourable economic conditions and stability of the Slovenian economy affect the dynamics of entry and exit of enterprises from the market.

The conducted research has an important contribution to the literature, and especially to experts who are professionally active in the field of the textile industry and who will find useful information for a better understanding of the causes and consequences of restructuring of the Slovenian textile industry. In particular, business managers should acknowledge the benefits of the survey findings. The continued impetus in this direction may also represent the present insight into the relationship between the level of development of the Slovenian textile industry and the business performance of enterprises.

The research has many limitations. The first limitation is the fact that the measurement of the dynamics of enterprises in the Slovenian textile industry was based on a limited sample of enterprises in the textile industry. The following restriction refers to the limited period from the year 2006 to 2017, given that the restructuring of the Slovenian textile industry began earlier in the year 1989 and following the Slovenian independence in 1991 during the greatest depression, mainly due to the loss of the former Yugoslav markets. An additional limitation was the fact that the seemingly successful rescue of large Slovenian textile enterprises, which received government subsidies for rescue and restructuring, mainly to alleviate social problems and tensions, and as such enterprises existed on the market 'artificially,' which is already the subject of further research.

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Strategy Implementation in Organizations: A Conceptual Overview

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The strategy implementation procedure is one approach through which managerial objectives, methods, and rules are implemented throughout the growth programs, financial plan, and procedure. The organization can quickly fail if such strategies are not executed well. When an organization plans to implement the required strategic plan, it certainly addresses all the predicaments that the organization may face like the probability of misusing the inadequate capital or the risk of self-worth in case the business fails. In essence, the conceptual study presents the strategy implementation process to enhance the attainment of the mission and the vision of the business through quality products and services that increases the customer base. Therefore, the result of the paper shows that the firm should implement an excellent strategy to achieve the entire objective to meet all the goals of an organization.

Key words: strategy implementation, planning, strategic plan, mission and vision
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Introduction

Strategy implementation is the stage where the real action in an organization is executed through the strategic management process (Allio 2005). It is the set of activities where the strategic plan is changed into strict performance in an organization. However, strategic change in planning is important, but the process is a little bit challenging. As Brinkschröder (2014) says, 'organizations invest a lot of time and resources in the planning of strategy, but very little of it will get successfully implemented.' Therefore, the study indicates that it is one of the critical aspects of any business success (Lubis, Torong, and Muda 2016); as it required the most attention understand of the strategy and its acceptance by implementers (Misankova and Kocisova 2014, 865). Implementation deals with the issue of who, where, when, and how (Allio 2005) to achieve businesses'

objectives (Misankova and Kocisova 2014, 862). During the process of strategic implementation, the whole organization is involved to ensure that there is a collaborative operation. According to Van der Kolk and Schokker (2016), strategic management is the most meticulous and challenging constituent of the whole considered supervision approach and the one which needs a lot of input to enhance the progress of an organization (Van der Kolk and Schokker 2016). It requires all-inclusive plans to ensure that all the objectives of the organization are achieved. In essence, this paper presents a brief strategy implementation process; it reviews critical features of the strategic implementation methods, including strategy implementation factors, strategy implementation process, and factors that lead to the failure of strategy implementation. Lack of clear common understanding of overall aims and plans as a major barrier to strategy implementation (Brinkschröder, 2014). In any organization, the plan might be incredibly complex (Dunlop, Firth, and Lurie 2013), but understanding the implementation process may lead to be effective and therewith successful (Brinkschröder 2014).

The Process for Implementing Strategy in an Organization

THEORETICAL BACKGROUND

Successful organizations across the world such as the Coca-Cola Company implement strategic plans to ensure that the organization operates proficiently. Such approaches create a vision for the future, and the methods required attaining all the stipulated goals. However, there are still some organizations, which are unable to understand the vision and the mission of the organization, and they fail to deliver the required services (Grant 2016). Unluckily, the managerial team may fail to pinpoint all the reasons for the failure of the business, believing that repeating the strategic planning time to time will have better results. In most cases, such an approach does not work (Deraman et al. 2017). Therefore, there is a need to ensure that strategic methods are implemented to attain maximum results. To do so, five significant constituents support the effective execution of strategies. People, resources, structure, systems, and culture are some of the factors that support strategy implementation in any firm (Palinkas et al. 2015).

The human resources/personnel are the people tasked with carrying out the company's strategy. The team must be adequate in size and must have the skills, competence, and commitment necessary to bring the policy to fruition. According to Rani and Mishra (2014),

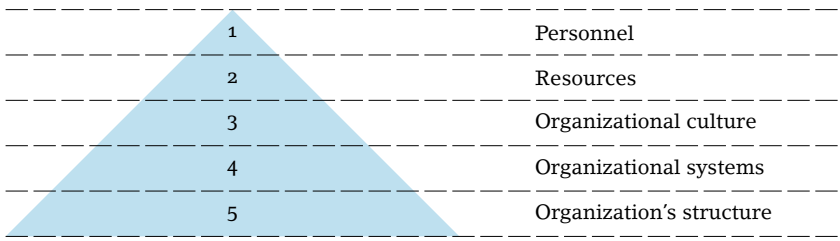

FIGURE 1 The factors to Support the Strategy Implementation

the quality of the team is a critical part of the success of the organization's plan. The organization should not only have people to execute its stipulated goals; they must be proficient enough who have the requisite skills to enhance the attainment of the stipulated goals in an organization. A research done by Lubis, Torong, and Muda (2016) indicates that the number of people in an organization is an issue that is easy to address since one can hire new workforce (Lubis, Torong, and Muda 2016). The major problem is seeing that one has the right people with the right skills, knowledge, and capability needed in implementing the task that would execute the strategy. Because in an organization, having the right employees will greatly enhance the likelihood of success (Aspridis and Kyriakou 2012, 21).

The firm must further have enough resources with regard to funding and time. The most significant undertaking in strategy implementation is the provision of assets, which is in the form of monetary or non-monetary resources obtainable in an organization. In addition, there are economic and non-economic resources that lack in an organization, and they are still required for strategy implementation (Powell et al. 2015). During the strategy implementation, the first thing that comes into the mind of an individual is the amount of money needed to support the application by covering all the costs and the expenses that should be acquired during the implementation of the strategies. Another critical resource is time (Lubis, Torong, and Muda 2016). There should be enough time to ensure that the policy is implemented throughout the process. As such, it creates an environment where all the undertakings can be tactically planned to achieve all the objectives.

Cristian-Liviu (2013) stated that the organizational structure ensures that the firm has the right attitude, tools, and structure that support the implementation of the strategy. Moreover, the structure of the organization must have comprehensible and in line with the ability and the accountability clear and highlighted in the order

of the objectives of the organization (Cristian-Liviu 2013). All the members of an organization must understand their responsibilities, and they must be accountable for them. Specifically, supervisors are evaluated on business formation, work quality, communication capability, credibility and other factors (Aspridis and Kyriakou 2012, 28). Additionally, the management should also describe the lines of communication in the entire organization. Workers in all areas of specialization should communicate well with other departments and supervisors so that they can achieve the objectives of the firm as a team (Powell et al. 2015). Ensuring that there is clear and open communication among the employees and the managers creates transparency, and people can share different ideas especially on issues that may affect the progress of the firm and how to address them. Open communication allows debate, argument, support and feedback, enthusiasm and as well as personal warmth for clear understanding (Arzenšek and Košmrlj 2017).

The culture of a business is another issue that supports policy execution practice. It is the general atmosphere within an organization concerning its associates. The organization should make its workers feel essential and contented in their particular responsibilities. For instance, they can be concerned with the premeditated administration method and play a critical role in ensuring that they are engaged in issues like decision-making. A custom of being responsible for different practices increases the motivation of the workers, and they improve their performance. It creates an environment where everyone feels inspired to contribute to the implementation of the approaches required to achieve the objectives of the enterprise (Deraman et al. 2017). For instance, some firms have the performance of appraisal as their central culture whereby, they reward the best performing workers by paying them or promoting them in their different departments. Such culture creates an environment where workers are to improve their competency to get the same favors from the organization.

STUDY PREPOSITIONS

Factors, which support strategic implementation, are generally in conformity with the significant achievement aspects required for successful execution. There are approaches classified by McKinsey that determine how best to implement a proposed strategy (Misankova and Kocisova 2014) in a firm. In essence, there are McKinsey 7s Framework factors (Jurevicius 2013) that increase the sustainability of any organization. The McKinsey as a tool made to give answers

to any questions that concern the design of the enterprise (Yeoh and Popovič 2016). The primary aim of the structure is to answer questions concerning the organizational design. The importance of the model is to coordinate the organizational structure that also supports how strategy implementation is portrayed. It entails the entire organization and not particular departments. It is an inclusive approach that engages all people in the organization and creating a strategy that people can work as a team instead of a single entity (Tarhini et al. 2015). In essence, the seven factors also play an essential role in implementing strategies in any organizational effectiveness.

The plan of any organization to attain a viable gain and sustainable development must be well elaborated for the enduring achievements of the business. The policy must be clear to all the employees and employers to ensure that everyone in the firm works towards the stipulated objectives (Netland 2016) and to focus their development efforts on organizational success (Ha-Vikström 2017). Notably, when an organization addresses its mission and vision, the strategy must be in line with them so that all the set goals can be achieved without any problem. A clear plan in an organization shows the core values and define how to make it unique in providing services to the people (Yeoh and Popovič 2016). In essence, other organizations may offer the same services, and thus it requires uniqueness to gain a competitive advantage in any market.

Shared values are another crucial constituent in the course of applying the plans in the business. It is a significant part of the McKinsey 7s framework. The principles, customs, and normally conventional attitudes eventually encourage members of the firm to carry out their practices in a particular manner. These standards and customs will control workers' personalities, and their shared values will be the major factors that enhance the prosperity of the business (Tarhini et al. 2015). When people, for instance, share common goals, it becomes easy to work as a team. Sometimes, it becomes challenging to achieve all the objectives that an organization would want to, but with the shared values amongst the workers, it becomes easy to attain.

To guarantees an effectual completion of policies, it is critical to have a system that is followed. The study indicates that the strategy implementation process is a five steps approach that involves strategy evaluation and communication of the strategic plan, development of an implementation structure, development of implementation-support policies and programs, budgeting and allocation of resources and discharge of functions and activities. Some researches

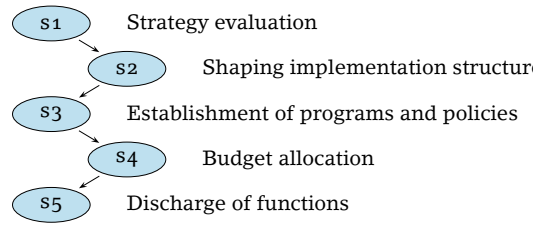

FIGURE 2
Five Different Approaches during Strategy Implementation

indicate that implementation of strategies is more critical than the procedures themselves (Spink et al. 2016).

STRATEGIC IMPLEMENTATION APPROACHES

However, it is not about trying to understand what is better is better than another is, since all the approaches are critical in strategic management. Formulating winning approaches is the most vital approach that any organization can implement to ensure that there is a competitive advantage in such an enterprise.

1. In figure 2, the first approach in the strategy evaluation process involves the evaluation and communication of the strategic plan. At this point, the business looks into inputs, performance, budgets, or any other aspect of the firm's objectives or goals that were missed during the strategy formulation stage. Often, a business may need to adjust its plan based on unforeseen happenings. For example, the strategy may stipulate that a given duration time or several team members are required for a marketing drive. Different steps are undertaken during this process (Seale, Broutet, and Narasimhan 2017). For instance, one should support the plans with the proposals by ensuring that the policy on the plan aligns with the goals of the business. The step should also align the budget to the yearly goal. Monetary evaluation should be done and approved to offer insight on the best approaches to implement in using the money (Shomali and Peeples 2018). The budgetary issues should be done to ensure that the objectives of the organization are achieved. Additionally, one should communicate and explain the purposes of the organization to all the members. Such an approach ensures that people have a common objective and they are working towards them.
2. The second approach entails the development of the implementation structure. This step involves the fashioning of a structure that will guide the team or provide a framework on how

the strategies will be implemented. Any good plan needs a frame or a playbook where all actions of workers take place (Brinkschröder 2014). All team members must be cognizant of their roles and how these affect the overall success of the strategy (Herrera-Sánchez, León-Pérez, and León-Rubio 2017). A structure aids the team in this object. Additionally, this step builds a vision that guides the framework of the implementation of the approaches needed in strategic planning. There should be an established harmonization system among different departments and their particular divisions. Such an approach enhances the designation of authority and accountability (Spink et al. 2016). Formulating the labor policy and strategies to be tracked in the execution of projects and identifying the major supervisory tasks and errands to be done and the skills required is also another approach, which is critical in the strategy implementation. It creates an environment where all members of the firm are involved in decision-making and the progress.

3. A research done by Shomali and Peeples (2018) indicates the development of implementation-support policies and programs are also referred to as strategy motivating guidelines or steady development programs. They are policies and programs, which enhance the implementation of proficient approaches in an organization. Here, the business comes up with constant improvement programs or policies that support the implementation of the strategy (Herrera-Sánchez, León-Pérez, and León-Rubio 2017). While an approach may be concrete, it can always be improved; the essence is the essence of establishing programs and policies to keep maintaining competitiveness (Misankova and Kocisova 2014) and it may lead an organization towards success. A performance tracking and scrutinizing system should be developed. It acts as the foundation for monitoring success through what has been achieved and what it ought to be made (Seale, Broutet, and Narasimhan 2017). Additionally, an organization should establish a performance executive scheme, information, and response structure, which will collect all the information needed and involve workers in the aspect of performance and management.

4. The fourth step is the time where strategic management teams are equipped with the needed apparatus and another capacity to execute their primary responsibilities for performing tasks (Ha-Vikström 2017). In essence, the team is equipped with appli-

ances, funding, or any other resources necessary for implementing the tasks for the business process. This step is one of the most critical parts of the strategy implementation process where, business processes can help organizations vastly improve their effectiveness (Ha-Vikström 2017). The team and even the strategy may be substantial, but if these lack the resources and tools to implement; the likelihood of success significantly decreases (Shomali and Peeples, 2018). Excellently, the team should have well-working abilities and established with adequate resources if the plan is to reach fruition. Resources should be allocated to different departments, and financial assessments and documentation are done to ensure that there are no losses and inaccurate calculations in an organization. In addition, there should be a system that checks the financial balances and monitoring if all departments operate within the planned budget. As such, it becomes easy to allocate the required amount of funds to different departments and using the money well since there is a financial plan.

5. At this point, the team acts, and the strategy becomes operational. Factors such as leadership and participation of the group are crucial at this stage of strategic management. During the whole process, the organization must ensure that there is a constant engagement of the workers by offering training and orientations on the critical undertakings that should be implemented in an organization (Chang 2006). In addition, there should be appropriate managerial approaches in the performance of all the activities. The performance should be evaluated at all levels to recognize the gaps that may exist and implement corrective actions so that it may not happen again in the future (Shomali and Peeples 2018). The study indicates that it is essential to adopt early corrective measures in an organization to avoid future challenges in implementing strategies. Fundamentally, the results or achievements in step five are the inputs in the subsequent level, which is the third phase of tactical administration of plan assessment.

Implications and Limitations

COMMUNICATION AS AN APPROACH

The study indicates that nine out of ten businesses fail even with the best plans and approaches. Tourish (2014) postulates that the disconnect in leading the team and poor communication between

management and employees is a major cause of business failure. Many factors lead to failure in strategic implementation. Some of the most common aspects include a disconnect between management and employees, poor leadership, lack of communication between team members, a convoluted and confusing plan, lack of ownership of critical parts of the program by team members and a disconnect in the strategy. For any project to reach fruition, the above factors must be tackled conclusively.

While there is a multitude of factors that may lead to strategy implementation failure, this factor of leadership must be placed in the first rank. Weak team leaders, regardless of the quality of his team, will likely bungle the best plan. Aside from the quality of leadership, the type of leadership has been known to influences strategy success. A transactional leader is mostly concerned with the performance, organization, and supervision of the group (Chang 2006). A transformational leader, on the other hand, is keen on aspects such as motivation of employees, engaging the team, and encouraging behavior operating as well as activate the firm resources towards the fulfilment of the organization's mission (Ha-Vikström 2018, 71). Fundamentally, these leadership strategies affect the success of a business divergently.

TRANSACTIONAL MANAGEMENT APPROACH

The transactional management approach has a constructive significance on the achievement of a business, while transformational leadership style affects the business negatively. It is imperative to note that Li and colleagues (2016) argued that group-focused transformational leadership harmed individual innovation and thus, overall strategy success. In effect, while transformational leadership leads to high levels of team satisfaction; it does very little to overall strategy success (Mkheimer 2018). All factors held constant; a transactional leadership style tends to avert failure in strategy implementation. In the end, failure in strategy implementation is almost always traced to the quality and style of leadership (Netland 2016). A team that communicates ineffectively or, lacks ownership often signals a laxity in administration or the type of leadership.

For business growth, the relationship between employees and managers is a crucial factor in the happiness and satisfaction of the employees in a firm (Öztürk and Demirkaya 2017). Sila and Širok (2018, 127) stated that the greater their satisfaction and the better the result. As dissatisfaction may lead to a lack of understanding also may affect the organizational structure and its strategy. There-

fore, the incompetence of employees and managers, strategy disconnection, and little attention by management is the significant causes of failure in the implementation of strategic management. When the workers and the managers fail to understand the strategy, they also fail to understand the mission and the vision of the firm (Mkheimer 2018). However, a lack of communication may be as a result of a lack of understanding and openness between the senior management and the strategic management personnel. In addition, sometimes a lack of ownership of the people to implement the strategy may hard to make the decision and policy, which affects the working process and productivity (Sila and Širok 2018, 116) for business development. Since the workers and employers do not understand the policy; they may not have the incentive to work towards the goals of an organization. The strategy may also be disconnected such that there are no critical aspects such as budgeting and workers' compensation, which may enhance their motivation to work towards the set objectives (Li et al. 2016). Lastly, little attention by the management is a significant predicament that strategic management faces. Most of the managers do not understand all that the approach entails, and they do not create time for the same. For instance, they may not refer to the strategic plan since they do not understand all that it entails.

The process of implementing the strategy in an organization is critical in the development of any business. The approach offers the basis for the practices of the company, thus affecting the performance of the firm. The primary critical aspects of strategic planning include the vision, mission, values, and approaches implemented for the advantage of the organization (Springfield 2017). Additionally, apart from the other concerns of the strategic planning, the other undertakings of the firms entail the timelines of the policies, and other variables such as the business plan which enhances the development of such business (Springfield 2017). The primary significance of such an approach is to develop a strategic plan that, favors the condition of the firm based on the precise assessment of the internal and the external factors that may affect the operations of the business.

FUTURE RESEARCH

The lack of understanding and communication may lead to a lack of trust between managers and employees (Daghfous, Belkhodja, and Angell 2013), which leaves the gap for further research. Future research will identify the strategic planning process and managerial performance to determine the relationship between the practices

of the managers and the strategic planning strategy. It will emphasize on the executive performance or management performance in any organization. For instance, to take or to assuming all the management responsibilities of the business firm (Basol and Karatuna 2017) can enhance an efficient strategic planning process (Springfield 2017). Additionally, future research will address strategic planning and human resource management since they are the main factors to consider for strategic management. Furthermore, it will look at the strategic planning and organizational performance and how it affects directly to an organization. The last question that the research will address is the strategic planning and business viability (Springfield 2017) in detail. The study indicates that strategic planning affects the viability and attractiveness of the trade for the workers. It creates an environment where the business can progress, and it should be adequately addressed.

Conclusion

The strategic implementation process is a critical part of the success of any firm. This work briefly reviews a few aspects of the strategic implementation process. Specifically, the work examines factors involved in strategy implementation, the strategy implementation process, and factors that lead to strategy implementation failure. The works show that any effectively implemented business strategy relies on five critical factors including the team charged with implementing the policy, the resources that will help the group affect the procedure, and the organization's culture, systems, and structure. Weakness in any of these facets often spells doom for the business. This work underlines that the strategy implementation process is a delicate five-step process involving strategy evaluation, the fashioning of the implementation structure, the establishment of programs and policies that support strategy implementation, budget allocation, and finally, the discharge of functions. Lastly, the work highlights factors that contribute to failure in strategy implementation. Poor leadership and lack of communication are, by far the most significant cause of failure. Others are a confusing plan, lack of ownership of critical parts of the project by team members, and disconnect in the strategy. In the end, this work shows that strategy implementation is a crucial aspect of the success of the firm.

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Measuring Impacts of Science and Research on the Society: Development, Issues and Solutions

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In the last three-hundred years, the role of research for the technological progress is undeniable. Successful societies have mechanisms for a quality knowledge transfer into the economy and society. As we are all aware off, scientific and research activities are not intended for themselves, therefore scientific and research results as well as the socio-economic impacts of the results are important too. The paper covers the analysis of socio-economic impacts of research that can be divided into economic, political/social, educational and other. A literature review demonstrates the great importance of the socio-economic impacts of the public funding of science and research. There is a number of developed and successful methods to maximize the socio-economic effects on research and development, consequently, numerous documented cases of good practice in the world. This allows for good management of research projects, from their preparation, implementation to completion, and later dissemination of results and transfer to the economy and non-economy. In the paper, we firstly discuss the history of measuring the impacts of results of science and research, than the assessment of the socio-economic effects of the research and issues related to that. The international waymarks of planning and monitoring of the research effects are presented as well. Finally, some suggestions for solutions to how to deal with measuring the impacts of research results are presented.

Key words: science, research, results, socio-economic impacts, measurement
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Introduction

For over fifty years, governments have been funding science, research and development for the influence and the impact it has – or at least we think it has or will have – on the society. Although science policy was once guided by philosophy or ideology of 'policy for science,' it has never been doubted in the minds of policy makers that

the ultimate goals of financing science and technology were socio-economic, namely national security, economic development, social well-being and environment.

The problem actually begins with the very definition of 'social impact of research.' A number of different concepts or notions have emerged: 'third-stream activities' (Molas-Gallart et al. 2002), 'social benefits' or 'social quality' (van der Meulen, Nedeva, and Braun 2005), 'utility' (Department of Education Science and Training, 2005), 'public values' (Bozeman and Sarewitz 2011), 'knowledge transfer' (van Vught and Ziegele 2011) and 'social meaning' (ERIC 2010; Holbrook and Frodeman 2011; Demšar et al. 2017). However, each of these concepts ultimately concerns measuring of social, cultural, environmental and economic contributions from publicly funded research, whether products or ideas. In this context, 'societal benefits' refer to contribution of research to the social capital of a nation, in promoting new approaches to social issues or in informing on public debates and policy-making. 'Cultural benefits' are those that add to cultural capital of a nation, for example by looking at how we relate to other societies and cultures, by understanding our history better, and by contributing to the preservation and enrichment of cultures. 'Environmental benefits' profit from the nation's natural capital, by reducing waste and pollution, and by increasing nature conservation or biodiversity. Finally, 'economic benefits' enhance country's economic capital by improving its ability and capacity and by improving its productivity (Donovan 2008).

Given the variability and complexity of evaluating the social impact of research, van der Meulen, Nedeva, and Braun (2005) point out that 'it is not clear how to evaluate social benefit, especially for basic and strategic research.' There is no acceptable framework with relevant databases comparable to e.g. the one from Thomson Reuters Web of Science, which enables the calculation of bibliometric values such as the H index (Bornmann 2009) or the impact factor (Bornmann 2012). In addition, there are no criteria or methods that could be used in evaluating the impact on society, while conventional research and development indicators provide little insight, with the exception of patent data. In fact, in many studies, the social impact of research is predicted rather than proven (Niederkrotenthaler, Dorner, and Maier 2011). For Godin and Doré (2005), 'systematic measurements and indicators (of influence) on social, cultural, political and organizational dimensions are almost completely absent from the literature.' In addition, they point out that most of the research in this area is primarily concerned with economic in-

fluence or the impact of science and research results, while other social fields of potential impact of science and research are largely neglected and overlooked.

This is the reason why in this paper we first focus on the measurement history and the assessment of impacts of science and research after we have highlighted some of the problems and dilemmas of such measurement and evaluation. Further on, we present characteristics of economic and social measurement or evaluation of research effects. We conclude the paper with a proposal for a comprehensive overview of aspects of measurement and societal domains of the potential impact of science and research.

History of Measuring Impacts of Science and Research

In most countries of the Organization for Economic Co-Operation and Development (OECD), the annual gross consumption for research and development exceeds 2% of gross domestic product (GDP), in 2018, on average, 372% (minimum Chile 0.355% and maximum S. Korea 4,553%) and the EU at an average of 1.974% of GDP (minimum Romania at 0.504% and maximum Sweden at 3.397%) (see https://data.oecd.org/rd/gross-domestic-spending-on-r-d.htm).

Even before World War II, individual governments invested public funds in scientific research, expecting that military, economic, health and other benefits would result from it. This trend continued during the war and during the Cold War, with increasing investment of public money in science and research. Nuclear physics was the main beneficiary, but other fields of science and research were also financially supported, especially military and increasingly commercial, as their potential for economic and social development was becoming more and more apparent. In addition, research in itself has always and increasingly been regarded as valuable effort and endeavour, mainly because of newly created knowledge and its value, even if this knowledge could not be directly and immediately used.

Many states believed in the principle that 'science is a spirit that will keep the country competitive, but the spirit must also be nourished' (Stephan 2012). In the US, Bush (1945) argued that any investment in science is inherently good for society.

Until the 1970s, policy makers had no doubt that public investment in research and development had a positive impact on areas such as communication, way of work, way of life, our clothing and food, our modes of transportation and even length and quality of our life (Burke, Bergman, and Asimov 1985).

However, over the following decades, the growth and scope of sci-

entific research has exceeded available public funding, which has increasingly 'forced' science to test its achievements in the form of the so-called peer review and the development of measurement indicators for measuring of scientific results and research impact. The only interesting aspect of measuring the impact of science so far was the impact of research on academic and scientific knowledge. The assumption was that the more demanding a scientific activity, the greater the social benefit.

Since the 1990s, there has been a trend of moving away from automatic confidence in the validity of a presumption; that science is always beneficial to society (Martin 2011). That is why questions appeared: What are the results of public investment in research from which society actually expects benefits (European Commission 2010)? Today we expect measurements of the impact of science on human lives and health, on organizational capabilities of companies, institutional and team behaviour, on the environment, etc. (Godin and Doré 2005). A company can only use the benefits of successful research if the results are translated into marketing and consumer products (e.g. medicines, diagnostic devices, machines and appliances) or services (Lamm 2006).

This has caused more and more problems for research-funding policies and agencies that were confronted with how limited public resources can most effectively be shared between researchers and research projects? This challenge – defining promising research in advance – has led to the development of criteria for assessing the quality of scientific research itself and for determining the social impact of research. Although the so-called first set of criteria was relatively successful and is still widely used to determine the quality of journals, research projects and research teams, it has been much more difficult to develop reliable methods for assessing the social impact of research.

The impact of applied research such as development of medicines or development of information technology is obvious, but the benefits of basic research, which are more difficult to evaluate, have also been increasingly studied since 1990 (Salter and Martin 2001). In fact, there is no immediate or direct link between the scientific quality of a research project and its social value. As pointed out by Paul Nightingale and Alister Scott (2007), 'research that is highly cited or published in top journals may be good for the scientific community but not for society.' In addition, it can take years or even decades until a certain amount of knowledge contributes to new products or services that affect the society.

Problems of Measuring the Social Impact of Research

The socio-economic objectives of public funding were so pronounced that scientists and researchers, as well as statistical offices for measuring science and technology have initially discussed how to measure the results and impact of scientific research and how to develop more indicators to that end. For example, we now have a historical series of patent performance indicators, technology balance of payments and high technology trade. We also have several studies that link science and technology with productivity and economic growth. The OECD countries have also adopted a standard classification for measurement and breakdown of public research and development expenditure by socio-economic objectives.

Ben Martin from the Science and Technology Policy Research Department at Sussex University, UK, lists four common problems that emerge within the criteria of social impact of research (Martin 2007):

1. Problem of causality – it is not clear what impact can be attributed to the cause or in other words, what effect or the impact of the research stems from a specific research and its results.
2. The attribution problem that arises because the effect can be diffuse or complex and contingent and it is unclear what is attributable to individual research or other inputs.
3. The problem of internationalization, which arises from the international nature of research and development, as well as innovation, which makes it very difficult, if not impossible, to identify the impacts of a particular research.
4. Last but not least, the timing aspect, as prematurely measuring the impact of research can emphasize effects that give only short-term benefits and do not take into account its potential long-term effects.

In addition, there are four other problems:

1. It is difficult to find experts to evaluate the social impact of peer-reviewed research. As noted by Holbrook and Frodeman and at the University of North Texas in the USA, 'scientists generally do not like to think about the impact and evaluation of research in terms of its social impact, as this too often places scientists outside their scientific discipline borders' (Holbrook and Frodeman 2011).
2. Given that scientific work of a natural scientist has a different impact compared to work of a sociologist or a historian,

it would be difficult to have a single assessment mechanism (Molas-Gallart et al. 2002; Martin 2011).

3. When measuring social impact, it should have been taken into account that there was not only one model of a successful research institution. Therefore, the assessment needs to be tailored to the particular strengths of each individual research institution in teaching and research, the cultural context in which it exists, and, of course, national standards.
4. Finally, the social impact of research is not always desirable or positive. For example, Rymer wrote that environmental research leading to the cessation of fishing may have an immediate negative economic impact, although they would retain a resource that could have been made available for use again for a longer period of time. The fishing industry and nature conservationists may have very different views on the nature of the original impact, some of which may depend on their views on research excellence and their disinterested nature (Rymer 2011).

Despite these efforts, we do not know much about the impacts of science. Firstly, most studies and indicators address the economic impact. Although economic impacts are important and, above all, non-negligible, they represent only a part of the overall impact that extends to the social, organizational and cultural sphere of the society.

As Cozzens (2002) said: 'Most (measurement efforts) have looked at the process of innovation rather than its results. Traditional studies on innovation continue to focus on producing new things in new ways rather than on whether new things are needed or desired, let alone their implications for jobs and wages.'

Secondly, even those few discussions and measurements that go beyond the economic dimension focus on indirect rather than final effects. Even forty years after the initial requirements for impact indicators, we are still relying on peer review and case studies to measure the non-economic dimensions of research effects very incompletely and insufficiently.

Until a reliable and robust method for assessing the social impact of research is developed, it is first appropriate to use expert panels to qualitatively assess the social relevance of research. Rymer (2011) states that 'just as peer review can be useful in assessing the quality of academic work (research work) in an academic context, expert panels with relevant experience from panellists in different fields can be useful in assessing the differences caused by research.'

The Economic Dimension of the Research Effects Measuring

In literature, most, if not all, of the measurable effects of science have in one way or another been referred to the economic dimension of action. In the 1950s, economists began incorporating science and technology into their models and focused on the impact of research and development on economic growth and productivity. The Solow (1957) model was the dominant methodology for linking research and development to productivity. It was the first to formalize accounting of sources of growth (separating GDP into capital and labour) and to equate the rest of his equation with science and technology, though it included more than just science and technology. Denison (1962) and Jorgenson and Grilliches (1967), among other, also improved the Solow approach later.

Following Solow's initial work, numerous cost-benefit analyses were conducted and econometric models were developed, in order to try and measure what the economy owes to science. A number of studies have focused on assessing the rate of return on research and development investment in two basic forms – publicly funded research and development and return on privately funded research and development. Since then, studies on the economic impact or the impact of science focused on two topics (Godin and Doré 2004):

- productivity and
- the so-called spill over from university and government funding of research and across sectors and industries.

One of the topics that also deserved early attention was the impact of science on international trade. As early as the 1960s, economists began incorporating science into models of international trade (Posner 1961; Vernon 1966). The authors, who use research and development as a factor to interpret international trade patterns, discussed why some countries led in trade while others stayed behind.

The literature on the economic impact of science is much less extensive. The impact on science itself is the most researched in the literature. The number of citations has been used to measure the impact of scientific publications on other researchers for many decades. Of particular note was the contribution of the Science Policy Research Unit (SPRU) in Sussex, England, and the CWTS (Center for Science and Technology Studies) in Leiden, the Netherlands.

The impact of research and science on technological innovation has also received much attention from researchers (Gibbons and Johnston 1974; Mansfield 1991; Rosenberg and Nelson 1996). For

example, several authors, including Mansfield, have illustrated the importance of academic research for the advancement of industrial innovation. They argued that a large proportion of companies would not have developed products and processes without academic research.

Several factors have contributed to the economic dimension of science being focused on statistics and indicators, notably official statistics. One relates to the mission of the first organization to systematically engage in the measurement of science, namely the OECD. Most of the OECD work has dealt with indicators of economic nature, since from the beginning of its Scientific Research Committee, the purpose is 'to place high emphasis on the economic aspects of scientific research and technology in the future programme.' The OECD has had a great influence on national statistical offices according to methodology of measuring science, and its philosophy has significantly influenced the statistics collected and the indicators developed (Godin 2002).

Secondly, economists were the main producers and users of statistics and science indicators, so they represented the majority of national and OECD consultants since, until recently, they were the only analysts who worked with statistic data systematically. R. Nelson once claimed (1977), 'One would think that political science, not economics, would be the domestic discipline of policy analysis. According to some, the reason it never happened was that the normative structure of political science was usually appalling, while economics had a strongly articulated structure in order to think about what politics should look like.'

The third reason for focusing on economics was that the economic dimension of reality was the easiest to measure. Much of the production and impact of science is intangible, diffuse, and often appears with a significant delay. Although difficult to measure as well, the economic dimension of science and technology is still the easiest to measure.

The Social Dimension of Research Effects

Social or the socio-economic impact of research is much harder to measure than the scientific impact, and there are also no indicators that can be used in all disciplines and institutions to compare databases (Martin 2011). Social influence often takes years to become apparent, and 'the ways in which research can influence certain behaviours or inform social policy are often very diffuse' (Martin 2007).

We can find some empirical studies on the impact of new tech-

nologies (computers) on jobs and job sharing or measures of return on investment in health research on disease burden – frequency, prevalence, hospital days, mortality, lost years of life (Comroe and Dripps 1976; Hanney, Davies, and Buxton 1999; Gross, Anderson, and Powe 1999; Grant 1999). Several assessments of individual public programs dealing with socio-economic impacts can also be found, for example at European Commission level. But, most of literature deals with identifying the right approach to use when assessing impact or simply with describing the methods available to do so (e.g. Garrett-Jones 2000; van der Meulen and Rip 2000; Roessner 2000; Caulil, Mombers, and van den Beemt 1996; Kostoff 1994). Many authors have acknowledged the difficulty of measuring impact, firstly because of the fact that it is indirect rather than direct, and secondly, because it is scattered across time and space. For many, the concern for measuring non-economic impact depends on a better knowledge of the research transfer mechanisms. Several models can be found in the literature that proposes analytical frameworks for transmission mechanisms (Hanney, Davies, and Buxton 1999; Caulil, Mombers, and van den Beemt 1996; Cozzens 1996).

Recognizing the limitations so far listed, some researchers have, in recent years, discovered new ways in which science and, above all, basic research has an impact on society. These include K. Pavitt and B. Martin, who built on the work of Pavit and Salter, and who argues that econometric studies provide only a few clues as to the true economic benefits of publicly funded (basic) research. These studies use models that face too many methodological constraints to capture the full benefits of basic research. They lack reliable indicators and do not explain the link between research and economic performance (Salter and Martin 2001).

Most studies that have evaluated the social impact of research so far have focused on the economic dimension. As early as the 1950s, economists began to integrate science and technology in their models, examining the impact of research and development on economic growth and productivity (Godin and Doré 2005). Compared to other dimensions (e.g. cultural dimension), the economic dimension is certainly the easiest to measure (notwithstanding that reliable indicators have not yet been developed). Salter and Martin (2001) cited six types of positive effects of publicly funded research on economic growth stimulating:

- expanding the knowledge that companies provide for their technology activities;
- well-educated business graduates getting employed;

- scientists develop new equipment, laboratory techniques and analytical methods available for use outside the academic world;
- government-funded research is often the entry point into expertise networks;
- faced with complex problems, the industry relies on/is supported by publicly funded research and
- new businesses are formed from scientific projects.

Recently, interest in evaluating non-economic social outcomes has increased significantly. In most cases, initiatives to measure social outcomes based on science and technologies come from high-level political world. Thus, the European Commission's (2014) Horizon 2020 research and innovation programme explicitly focuses on social outcomes in the 'Science with and for Society' section as well as in other chapters. In the US, the so-called Broader Impact criteria of the National Science Foundation (NSF), i.e. criteria related to socio-economic impacts, derived from the National Science Board (NSB), the governing and advisory body of the NSF. According to a 2011 paper (National Science Board 2011), criteria for evaluating research proposals must include not only scientific qualities but also 'contribute to achievement of broader societal goals.' Of particular importance for the present purposes is the NSB's warning that the 'assessment and valuation' of NSF projects should be based on appropriate measurements, taking into account the likely link between the effect of wider impacts and the resources provided for project implementation.

Due to the fairly recent interest in the social effects of research, there are not yet a large number of useful, valid techniques available to evaluate these effects. One reason is that too little time has passed. Economic approaches to research evaluation count at least fifty years of development and bibliometric approaches at least thirty. The other reason for this is the simple fact that it is much more difficult to measure the social effects of research or science. In the case of bibliometric approaches, causal pathways are rarely the focus. Focusing on patents or publications or citations, bibliometric studies may sometimes coincide with socioeconomic effects but do not disclose the mechanisms leading to these effects. In terms of economic studies, commodification and monetization of results are almost always of interest. In some cases, this may in fact deviate from an understanding of the result and its effect (since even some important economic results are not well captured in monetary indicators), but in most cases the accuracy of economic data, when

considered with economic theory assumptions, at least allows for some robust causal hypotheses on the research effects.

How to Deal with Measuring the Impacts of Research Results?

To summarize the discussion and findings on determining the socio-economic impacts or the impact of the results of the research work, it appears that most of the efforts to determine the impact of science are primarily concerned with economic consequences, such as economic growth, productivity, profit, job creation, market share, spin-offs, etc., with very few indicators directly linking science to economic benefits. What is even more characteristic (and worrying) is that systematic measurements and indicators of influence on social, cultural, political and organizational dimensions are almost completely absent from the literature.

Because of this, the approach taken by Godin and Doré in identifying areas of science impact and funded by the Quebec Department of Research, Science and Technology is even more interesting. (Godin and Doré 2014) conducted a series of interviews with researchers (some of whom also directors) from 17 publicly funded research institutes (10 in science and technology, 4 in health sciences and 3 in social sciences and humanities), and with actual and potential users of research results within 11 social and economic entities. The interviews had two main goals. Firstly, they discussed different types of research done by researchers: strategic, fundamental and useful. Secondly, they sought to identify the full range of potential research impacts by gathering information on the results of research activities that provide at least potential use. Interviews were conducted using a short questionnaire that served as a guide for the interviewer. The interviews were semi-guided in nature and thus offered the freedom to address topics. On this basis, the authors have constructed a typology with eleven dimensions, corresponding to many categories of the impact of science on society (table 1).

The first dimension – science – is the most direct and obvious. It refers to a direct scientific impact. The results of a particular research influence the later advancement of knowledge – theories, methodologies, models and facts – creation and development of new disciplines and development of research activities themselves: interdisciplinarity, intersectionality, internationalisation, etc. and, ultimately, training.

The second dimension relates to technological impact. Manufacturing, process and service innovations as well as technical knowl-

TABLE 1 Science Impact Dimensions

Science	Knowledge, research activities, training
Technology	Products and processes, services, know-how
Economy	Production, financing, investing, commercialization, budget
Culture	Knowledge, know-how, relations, values
Society	Well-being, group discourses and activities
Policy	Decision makers, citizens, public programmes, national security
Organization	Planning, organization of work, administration, human resources
Health	Public health, healthcare system
Environment	Management of natural resources and the environment, climate and meteorology
Symbolically	Legitimacy/credibility/recognition, general knowledge
Training	Curriculum, educational aids, professional qualification, graduates, labor market entry, matching work and training, careers, use of acquired knowledge

NOTES Adapted from Godin and Doré 2014.

edge are the kinds of influence for which research activity deserves at least part of the credit. However, apart from patents, there are actually very few indicators to properly assess this dimension. For example, an innovation survey measures innovation activities, not the results and impact of the research.

The third dimension is the most well-known – the economic one. It refers to the impact on financial position of an organization (operating costs, product sales prices, revenues, profits), sources of financing (so-called stock capital, risk capital, contracts, etc.), investments (human capital – hire and training, physical capital – infrastructure and material, operation and expansion), manufacturing activities (types of goods and service products) and market development (diversification and exports).

The next eight dimensions are new, at least for statistics, as they are often less tangible. The impact on culture refers to what people often call the public understanding of science, but above all to the four types of knowledge: know what, know why, know how, and know who (Lundvall and Johnson, 1994). More specifically, it refers to the impact on an individual's knowledge and understanding of ideas and realities. It also includes intellectual and practical skills, positions and interests (about science in general, scientific institutions, scientific and technological disputes, scientific news and culture in general), as well as values and beliefs (Godin and Gingras 2000).

Impact on society refers to the impact that knowledge has on the

well-being and behaviours, practices and activities of people, groups and communities. For people, social impact is about welfare and quality of life. It also refers to life habits (consumption, work, food, sport and sexuality, sport). For groups and communities, new knowledge can contribute to changing the discourse and concepts of society or it can help to 'modernize' the way we 'behave and act.'

Impact on policy is related to the way that knowledge affects policy makers and politicians themselves: the interest and attitude of politicians, administrators and citizens towards the issues of public interest, including science and technology, public action (legal practice, ethics, policies, regulations, norms, standards) and citizen participation in scientific and technological decisions.

Impact on organizations is the impact on the activities of institutions and organizations, such as planning (goals and activities of organizations), organization of work (division and quality of tasks, automation, etc.), management and administration (management, marketing, distribution, procurement, accounting, etc.) and on human resources (workforce, employee qualifications, working conditions, training, etc.).

The health dimension refers to the effects of research on public health (life expectancy, prevention and restriction of the spread of disease, etc.) and on the health care system (health care and costs, healthcare professionals, health infrastructure and equipment, products – medicines, treatments, etc.).

The environmental dimension refers to the impact of science on the environment and environmental management, in particular on the management of natural resources (conservation of biodiversity) and environmental pollution (mechanisms and instruments for pollution control and pollution sources). It also highlights the impact of research on climate and meteorology (climate control methods and models of climate and meteorological forecasts). Indicators on environmental status and health status already exist in several organizations and countries. However, as with economic growth and productivity, the problem is linking this effect with research activity and its results.

The last two dimensions deserve a special comment. The symbolic effect is a significant one, identified by users of the survey results that were interviewed. Companies involved in research or through their research and development departments, for example, often gain credibility for leading research and development or for liaising and collaborating with university centres and academics. For many businesses, this is often just as important an impact as an eco-

nomic impact – and is likely to have an economic impact as well. Unfortunately, this effect has so far not been systematically examined and measured.

The last dimension of impact – training, could also be placed in the first, the scientific one. It is specifically addressed here because of its importance in relation to the mission of universities and other higher education institutions. It refers to curricula (study programmes and training programmes), educational manuals, qualifications (acquired competences in research), entry into the labour market, matching between training and work, career paths and the use of acquired knowledge.

This typology provides a checklist, as considered by Godin and Doré (2004), which reminds the statisticians that research with its results affects many dimensions of reality, in addition to those that are usually defined and measured in the literature.

As we can see, Godin and Doré tried to comprehensively and systematically analyze and substantiate potential effects of scientific research on society from all aspects mentioned and identified in their research, which can be a very useful approach in assessing and evaluating the effects of research that has already been concluded, as well as in assessing the intended effects of future research or research of applied research projects.

Conclusions

The history of research evaluation is diverse, with a focus on processes, results, and occasionally effects. With respect to the effects of research, most research so far has focused on economic or knowledge outcomes. On the former, a wide range of economic approaches have been developed, including input-output analysis, simulations, case studies, and cost-benefit analysis in particular. Very different approaches have been used to evaluate knowledge outcomes. While peer reviews, whether open or structured, remain an important approach to assessing the quality of knowledge outcomes, many rapidly evolving bibliometric techniques have increasingly been used by policy makers and researchers in recent decades.

Whether scientists like it or not, the social impact of their research is an increasingly important factor in gaining public funding and support for basic research. This has always been the case, but new studies of measuring instruments that could assess the social impact of research would provide better qualitative and quantitative data on the basis of which funding agencies and politicians could base their decisions.

The fact is that there is a great need for quantitative studies and indicators on the socio-economic effects of science. This need does not come solely from the individual governments who want or need to evaluate the success of their investment in science, but also from researchers themselves, as they want to understand and know the extent of the impact of their research on society and through what mechanisms the effects of their research are transmitted to it.

As we have already found out, most quantitative studies on the impact of science on society are based on econometric models that link the research and development expenditure to economic variables such as economic growth or GDP. In addition, many researchers still agree with NSF's old claim that 'returns (of science) are so great that it is almost unnecessary to justify or evaluate investment in it' (National Science Foundation 1957).

Determining and measuring the impact of research results or science is, according to Godin and Doré (2004) at a similar stage as the measurement of research and development and its results was in the early 1960s. Of course, there are many challenges, so appropriate solutions need to be developed in order to properly address methodological issues.

Cozzens (2002) was right in suggesting, 'We need to be more involved with fundamental social problems and issues, rather than narrowly focusing on the direct benefits of a particular research program or research activity.'

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The Strategic Management as a Factor of Customer Satisfaction in the Foodservice Industry in Sarajevo Canton

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This study can help to explore and measure food service quality, and the effect of strategic management factor on the foodservice industry in Bosnia and Herzegovina, and level their impacts on customer satisfaction. This study was structured in two parts as a literature review and survey research. And the data were collected primarily by considering the quality. The period of collecting the data from adapting to the questionnaire and applications of the samples for employing the modified version took eight months. The participants were the customers, who were chosen randomly, in the restaurants and cafes in Sarajevo. 120 surveys applied in this research, the diversity of restaurants and cafes were also chosen randomly, by considering the equal diversities, such as luxury restaurants, fast food restaurants, and cafes which serve foods. The data were analyzed by using SPSS statistic software for descriptive statistic, for variance analysis by ANOVA, Turkey and *t*-test methods and for analyzing of significant differences by Post Hoc LSD and Levene's tests. According to survey results, the customers are seen as satisfied with the quality of foods and their tastiness and also attributes of restaurants. However, they stated that the service quality in the restaurants is needed to be improved. Particularly, while increasing the income and age of participants, their expectations from the service standards and restaurant attributes and conveniences have been increased. The participants who prefer a longer time to spend in the restaurant,

also caring more about the ambiance of restaurants and feeling comfortable themselves while staying there. And the most of reason for going to the restaurant is for a social occasion. And interestingly, 57% of participants are going 'rarely' to restaurants, and 42% of participants have less than 1000 KM per month, the two results can be evaluated together to explain the reasons of each other.

Key words: food industry, food service, service quality, restaurant management, strategic management, customer satisfaction
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Introduction

The main objective of this study is to measure the customer satisfaction from food service in Sarajevo. The reviewed literature was considered, especially Kivela's, Inbakaran's, and Reece's (1999) dining satisfaction model was set in this research, and it was formulated the hypotheses accordingly.

H1 *Restaurants in Sarajevo are having a low satisfactory level in food service,*

H2 *There are significant differences between food and service quality in restaurants,*

H3 *Food service quality is dependent on the background of the staff management model of the restaurant*

H4 *Development of food services is associated with the success of strategic management of the restaurants.*

Finally, the author wanted to examine how customer satisfaction differs among the demographic groups in the survey participants who are a customer of restaurants in Sarajevo, and thus the fifth hypothesis was developed.

H5 *There is a significant difference in satisfaction level from food service and restaurant attributes, among the participants related to their demographic variables.*

In the questionnaire demographic questions are dependent variables, first and second section of survey are consist of independent variables and the last question as control variable is to measure over all responds.

Instrumentation

A questionnaire related to food service quality was specially designed to collect the data related to different aspects of strategic

management functioning within a restaurant. The SERVQUAL instrument for measuring service quality, which was developed by Parasuraman, Berry, and Zeithaml (1988), and its modified version and linear model which was employed by Kivela, Inbakaran, Reece (1999), adopted for this study. The structure of the questionnaire was consist of 91 questions totally, first six questions are about demographic questions as independent variables, then the instrument was applied which consist of 28 items as dependent variables were repeated for each to sections such as consumers' expectations, their perceptions, and importance of the attributes for customers. The sub-variables were about the 'food, service, restaurant appearance, convenience and what should a restaurant offer.' The questions in this part were designed based on the Likert Scale from 5 (very high) to 1 (very low). And at the end of the questionnaire, it was asked to customers that 'will you come to the restaurant again?' to evaluate overall perceptions and to control the questionnaire.

Model of Research

The adopted instrument and the research model were tested with twenty surveys as 'sample questionnaire' in the restaurants in Sarajevo (see the model in the Appendix I). The participants were not willing to respond to two demographic questions, about their occupation and education background. Then, the questionnaire was modified by reducing these two questions and employed in Sarajevo. The research was conducted on a convenient questionnaire, and the 120 participants who were the customer of restaurants in Sarajevo, were selected randomly. The survey was voluntary based and the volunteers motivated by a pollster to fill in the questionnaire in actual time, in different restaurants and cafes. The restaurants were also selected randomly with consideration of the level of their diversities.

The goal of each research is not to eliminate potential threats, but rather to reduce them to the minimum level, and therefore, it is almost impossible to have 100% of confirmed validity.

According to Creswell (2008), there are three forms of validity:

- Content validity,
- Construct validity,
- Concurrent validity.

Out of the three forms of validity, the first two forms are the most sophisticated and recommended for social studies. Content validity

investigates whether items measure what they should measure (Music 2007). The validity test of this study was examined by 20 sample surveys. The participants confirmed the entire questionnaire, except for two demographic questions. They refused to answer the two questions about their 'occupation' and 'education.' Thus, these two questions were removed from the questionnaire with the suggestion of mentor of this research, then the adapted instrument and its developed version in Kivela's, Inbakaran's, and Reece's (1999) models, was applied in this study.

The data collection is an essential component of conducting research. Even though it might sound simple, it is a difficult and time-consuming task, and it is rather hard to say what the best method for completing that task is (Music 2017). It does not only include distributing the questionnaire to participants, but also, the process of preparing and collecting the data for further usage.

This study includes primary data sources, which was collected to specifically address the problem stated at the beginning of the research. The data was collected through surveying this study, by using advantages of the primary data research which is more insight on qualitative and quantitative issues, by controlling the research design and the information. On the other hand, there were disadvantages to various costs of data. Primary data collection was expensive and time-consuming, and it was difficult to prepare a strong research plan in order to meet the deadlines.

The descriptive statistics and inferential statistical analysis were performed on the collected data. Frequencies and percentages were calculated for categorical and dependent variables while mean values, range, and standard deviations were calculated for scale values. In the data analyses, different parametric statistical methods were employed and parameters evaluated by using SPSS statistic software. For variance analysis by ANOVA (Analysis of Variance), Turkey and *t*-test methods and for analyzing of significant differences by Post Hoc LSD (Least Significant Difference) and Levene's tests were applied in this study.

Results and Discussion

The Statistical Package for Social Sciences (SPSS), Version 25 and Microsoft Excel 2017 were used for analyzing data received from the questionnaire. The inferential statistics methods that were used comprised of: Method of Correlation Coefficient that measured the strength of association between the selected variables; the independent samples *t*-test, Turkey and ANOVA were computed to examine

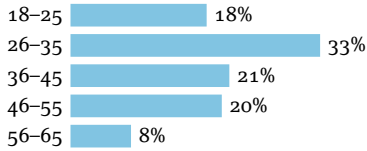

FIGURE 1 Age Group

FIGURE 2 Gender Distribution

the existence of hypothesized difference among the demographic groups of customer satisfaction on food service quality and explain their variance in general. Then Post Hos LSD and Levene's test were applied to see the least significant difference among each group.

The purpose of the study was to examine the extent to customer satisfaction from food service in the restaurant in Sarajevo. The objectives on which study was focused are presented below.

The biggest part of the participants who filled to the survey in the ages between 26 and 55 with 74%. Most of the customer in restaurants and cafes are in mid ages as it was observed. The results confirmed the objective observations.

As it is seen in figure 2, among the people who accepted to fill the survey, 55% of them were male, and it can be said that males are spending time out of home or work and preferring dining in the restaurants more than females.

The customer who accepted to fill the survey, the biggest rate is less than 1000 KM (convertible mark) income potential with 42% and the second biggest rate of income is between 1000 KM and 2000 KM with 25%. This result shows that the people who have a lower income, they mostly spend time in a restaurant and cafes. In another word, it can be said that the people who have higher income or a better job, they don't have time to go out or restaurant to spend a long time, not similar as the others.

The frequency of dining out is quite low according to question re-

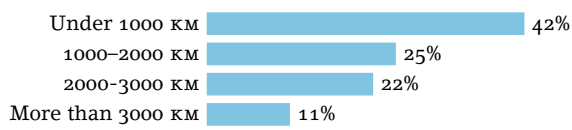

FIGURE 3 Distribution of Income

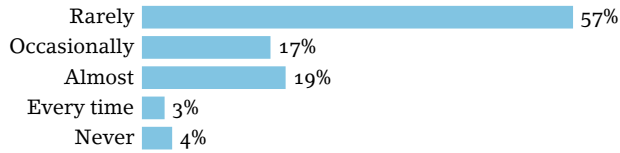

FIGURE 4 Dining Out Frequency

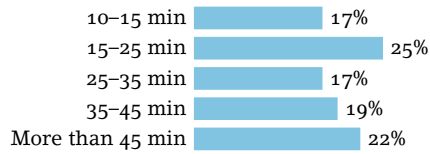

FIGURE 5 Spending Time in a Restaurant

sult. 57% of respondents have responded as 'rarely' dining out. It is quite interesting that lower income person who became subject of present study is higher than higher income persons. And also, this question is measuring for eating out of home, not measuring the spending time in cafes or somewhere else. Therefore, they might be argued that they rarely dining out. The next question about 'spending time in restaurant' will light the wonderment about spending time in restaurants or cafes.

The answers to this question are given as 25% for 15–25 min and 22% for 45 min and up, and it can be realized that the people in Sarajevo prefer longer to stay in the restaurant. It might be thought that their reasons for going to a restaurant not only for feeding themselves. The main reason can be seen clearly in the next question.

This question is significant for local people in Sarajevo, regarding to their cultural habits. As it is seen in figure 6, 39% of participants say that their reason for going to the restaurant is for 'social occasion' and 26% of others says that it is for their 'convenience.' This shows what are their sociocultural characteristics and attributes. They like socializing, convenience and they have outgoing personality. The means of all items and standard deviations are seen in the table 1.

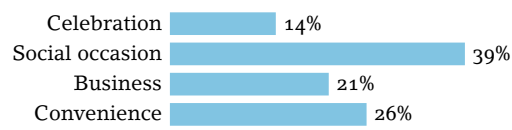

FIGURE 6 Reasons for Going in a Restaurant

TABLE 1 Expectations-Perceptions from the Restaurant and Importance of Attributes

Category	Item	(1)	(2)	(3)
Expectations: perceptions from the food and importance of attributes	Presentation of food	3.358 (1.075)	3.258 (0.974)	3.666 (1.117)
	Menu item variety	3.533 (0.978)	3.350 (0.949)	3.716 (1.030)
	Nutrition food	3.766 (1.082)	3.550 (1.035)	4.000 (1.130)
	Tastiness of food	3.833 (1.094)	3.733 (1.018)	4.066 (1.066)
	Food quality	3.875 (1.049)	3.600 (1.103)	4.050 (1.129)
	Freshness of food	3.800 (1.057)	3.650 (0.992)	3.908 (1.107)
	Temperature of food	3.866 (1.084)	3.650 (1.142)	4.150 (1.050)
Expectations: perceptions from the service and importance of attributes	Polite, friendly, helpful staff	3.750 (1.094)	3.483 (0.987)	3.816 (1.028)
	Attentive staff	3.808 (1.023)	3.491 (0.978)	3.875 (0.903)
	Staff greeting customers	3.700 (1.025)	3.475 (0.978)	3.791 (0.924)
	Efficient service	3.808 (1.023)	3.550 (1.002)	3.766 (1.001)
	Staff are willing to serve	3.700 (1.025)	3.425 (1.018)	3.783 (1.054)
	Staff have food/beverage knowledge	3.733 (1.034)	3.433 (1.001)	3.650 (1.058)
	Sympathetic handling of complaints	3.716 (1.030)	3.408 (1.057)	3.758 (1.004)

Continued on the next page

Conclusion and Recommendations

In this study, it was investigated to the food service quality and its effects of customer satisfaction Bosnia and Herzegovina and as a case study in Sarajevo. However, it is clearly seen that the service quality and standards are not satisfied, in this research. Thus, it was aimed to investigate and determine the existing condition, then raise awareness about food service quality to be improved. The statistical results are showing that the hypothesis of this study was accepted, especially in relation to the independent demographic variables.

According to overall survey results, the customers are not complaining in accordance with the reality about the service quality.

TABLE 1 *Continued from the previous page*

Category	Item	(1)	(2)	(3)
Expectations: perceptions from the ambiance and importance of attributes	Level comfort in the restaurant	3.666 (0.973)	3.458 (0.906)	3.775 (0.939)
	Level of noise in the restaurant	3.683 (0.934)	3.450 (0.896)	3.708 (1.032)
	View from the restaurant	3.541 (0.897)	3.383 (1.014)	3.625 (1.004)
	Cleanliness of the restaurant	4.008 (1.024)	3.641 (0.977)	4.000 (1.152)
	Dining privacy	3.458 (1.052)	3.375 (0.944)	3.525 (0.969)
	Restaurant's temperature	3.625 (1.045)	3.525 (1.060)	3.683 (0.987)
	Restaurant appearance	3.708 (0.901)	3.525 (1.036)	3.725 (1.068)
	Staff appearance	3.491 (1.069)	3.508 (0.995)	3.750 (1.006)
Convenience	Handling of telephone reservations	3.691 (0.914)	3.508 (0.898)	3.608 (1.031)
	Parking convenience	3.733 (0.976)	3.541 (0.986)	3.758 (1.012)
A restaurant ...	Offers a new dining experience	3.408 (1.008)	3.233 (0.941)	3.425 (0.931)
	Offers food of a consistent standard	3.708 (0.956)	3.400 (0.834)	3.775 (0.920)
	Feels comfortable to eat there	3.908 (0.925)	3.608 (0.843)	3.783 (0.980)
	Offers service of a consistent standard	3.766 (0.967)	3.533 (0.916)	3.741 (1.024)

NOTES Column headings are as follows: (1) expectations, (2) met the perceptions, (3) importance of attributes. Mean values (standard deviation in parentheses).

Their response is seen in the descriptive statistics and on average as '3.491' of '5,' based on the Likert Scale of the research instrument in this study. On the other hand, they are expecting that the food service quality needs to be improved.

However the outcomes in this study show that the participants are mostly don't consider the service quality, they just focused on the food attributes. It will be seen in detail and understood the results while evaluating the findings.

Based on gender differentiation, women are demanding higher standards in all variables. They are expecting more, and they are meeting less for their perceptions. But, interestingly, in the last part

of the survey, the participant responded to the question that 'Will you come to the restaurant again?' and the answers as 'No' were mostly came from men.

Income is one of the main factors for demanding higher quality and standards in foods, service attributes and conveniences from the restaurants. For example, parking convenience is one of the main attributes for higher income holders, which they think that it is a problem that they usually meet this problem.

Dining out frequency, as a variable, has been observed in 'rarely' with 57% rate. These results can be explained with income and revenues. Owing to the fact that 42% of the participants have less than 1000 KM per month, and 25% of them have between 1000 to 2000 KM. Dining out can be not affordable in so frequent. Another result from this part is that the participants, who are frequently dining out, are not satisfied in general from the service, attributes and etc.

The time spent in a restaurant is effected for different reasons. There was a variety of restaurants and cafes in this research. From the higher standard restaurants to the fast food restaurants, and in some café' which serve food in, were chosen in this study to collect reliable data. It was not an object to analyze the standards of restaurants differentiations in this study, but in the future study, it can be researched in detail regarding their potential customer profiles.

In this study, the participants who spent a long time, such as 45 minutes and more have more expectations than the others. And based on the type of standards of the restaurants, the time spent is changing. The participants who spent a short time in a restaurant, while dining, they don't have a consideration on restaurant ambiances, conveniences, and other attributes. In luxury and convenient restaurants, the customers spending more time, as expected. And the customers are satisfied with the services and ambiances in this luxury restaurants.

In any parameters, the local people in Sarajevo, they usually prefer to spend a long time in restaurants, if it is compared to the other societies. Because their reasons for going to the restaurants are mostly for social occasions, this will be explained in detail below.

Many factors in this study are related to each other. The reason for going restaurants are usually for the social occasion as it was mentioned. For most of the Bosnian people, dining in a restaurant is a social occasion. Antony (2011) stated that most people eat at restaurants and food service operations for enjoyment and entertainment. But in Bosnia, it seems as social occasion more than the other societies. If it is evaluated with the parameter of dining our frequency,

which was obtained as 'rarely,' they mostly considered as a social activity. These results are explaining many things that may be related to cultural and other effects, which is needed to be analyzed in future studies in different aspects in related fields.

In the last part of the survey, it was asked to the participants that 'will you come to the restaurant again?' And 70% of them replied as 'Yes.' This the most critical question in over all that to show the culture and mentality. It can be explained that the Bosnian people are so modest, fewer expectations or there are a few alternatives to go. But, it is the most accurate explanation can be on cultural values.

In order to cultural, economic and other reasons, expectations of participants are quite modest. Apart from the survey questions, during the conversation meanwhile employing the surveys, they were mentioning clearly about their approaches. They said that they like local food, and they only consider their tastes and being affordable; they are not caring about the presentation of the food and their service quality. It might be because of the cultural and economic effects, and sociopolitical situations of B&H and Canton Sarajevo, keep the people in a conservative lifestyle. This factor also might affect food service standards, not to be improved. Soon or later, it will be changed. Tourism capacity of B&H and Canton Sarajevo is increasing day by day. When the mentality integrated into the global culture, expectations of the existing customers and potential customers will be increased, and they will demand a higher standard for food services.

One other interesting finding that there is neither tourism school nor school for service in the hospitality industry in B&H. Therefore, the service staff in the foodservice sector has no chance to be educated and trained to improve their skills and knowledge. And, this might be one of the key reasons for insufficient food service quality.

According to Knutson and Patton (1993) service quality is a strong motivator for choosing a restaurant. The food quality, tastiness, freshness and etc. are just minimum requirements for all restaurants. Besides the ambiance and restaurant attributes, the service quality is attracting the customers.

The food quality, tastiness and varieties of local foods have a chance to be opened to the global market. Bosnia and especially Sarajevo have the capacity to be a center of gastronomy tourism. However, it cannot be succeeded without improving the service quality to international standards.

Lastly, the survey has totally 91 different types of questions and some of them are repeating under the different variables. But the participants are responded to each of those questions objectively and

in detail without hesitation, which can be seen in the results and which is confirming the reliability of this research. Therefore, the variable of 'spending time in a restaurant' has to be analyzed in this perspective. As it is seen above, in almost all criteria this variable have significant differences. According to demographic variables, duration and reason for spending time in a restaurant are changing.

Recommendations

During the studying period in Sarajevo, while observing to the society as a foreigner, it was realized that the local people in Bosnia, prefer to spend a longer time in the restaurants or cafes, if you compare the other societies and cultures. And during the employing the surveys in the restaurants, it was had a chance to interview with the owners or managers of them. They mentioned about the sectorial problems, lack of qualified staff, and no institution to be educated for service in the hospitality industry, which I tried to mention in the text. These outcomes were unpredictable and the information's were out of the topic, and they were not in the objective of this study, but they can be researched and analyzed in the future studies.

There was a variety of restaurants and cafes in this research. From the higher standard restaurants to the fast food restaurants, and in some café' which serve food in, were chosen in this study to collect reliable data. It was not an object to analyze the standards of restaurants differentiations in this study, but in the future study, it can be researched in detail regarding their potential customer profiles.

Tourism capacity of B&H and especially in Canton Sarajevo is increasing and the existing customers and potential customers will be increased in the near future, and they will demand a higher standard on food services. Thus, immediately it has to be established as an institution for service in the hospitality industry and tourism. Qualified staff for service is needed the tourism and food service sector.

The cultural effects on these research outcomes must be investigated professionally by the researchers, experts and academicians in sociopsychology, economy and other social sciences fields. And all over the outcomes might evaluate and considered by decision makers to open way of the sectorial improvement.

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Abstracts in Slovene

Razmerje med človeškim kapitalom in nacionalno kulturo

Valerij Dermol

V članku predstavljamo vpogled v razmerje med dimenzijami nacionalne kulture, kot jih je opredelil Hofstede, in človeškim kapitalom (HC), izmerjenim z Globalnim indeksom človeškega kapitala (GHCI), ki ga redno meri Svetovni Ekonomski Forum. Študija temelji na podatkih, ki so na voljo na internetu. Statistična analiza je bila izvedena na vzorcu 89 držav in regresijskem modelu, ki kaže, da obstaja pozitivno razmerje med dolgoročno orientacijo proti kratkoročni normativni usmeritvi (LTO), individualizmom proti kolektivizmu (IDV) in moškostjo proti ženstvenosti (MAS) na strani nacionalne kulture in Globalnega indeksa človeškega kapitala kot kazalnika na strani človeškega kapitala. Poleg tega v raziskavi prepoznavamo skupine držav s podobnimi kulturami, ki bi lahko bile pozitivno ali negativno povezane s človeškim kapitalom, njegovim razvojem in uporabo, delujejo pa tudi kot posrednik, ki vpliva na gospodarsko uspešnost države. Ugotovitve študije omogočajo vpogled v dejavnike, ki lahko dolgoročno vplivajo ne samo na državo, ampak tudi na poslovne organizacije v državi. Verjamemo, da so za družbo in organizacije v njej lahko zelo pomembni individualizem, dolgoročna usmerjenost in zmanjševanje čezmerne tekmovalnosti.

Ključne besede: nacionalna kultura, človeški kapital, uspešnost nacionalnih gospodarstev
Management 14 (3): 173–184

Dinamika podjetij v slovenski tekstilni industriji

Barbara Jernejčič Dolinar in Štefan Bojnec

Prispevek obravnava dinamiko zmanjševanja velikostne strukture in števila zaposlenih v velikih in srednje velikih tekstilnih podjetjih, ki vplivajo na vstop novih mikro in majhnih podjetij v panogo slovenske tekstilne industrije. Slovenska tekstilna industrija je v času pred osamosvojitvijo leta 1991 veljala za močno delovno intenzivno panogo, v letu 1990 je bilo v panogi 69.454 zaposlenih, v letu 2017 pa le še 9.800 zaposlenih. Pri analizi dinamike podjetij v tekstilni industriji uporabljamo podatke računovodskih izkazov podjetij o mikro, majhnih, srednjih in velikih podjetjih v obdobju od 2006 do 2017. Raziskava prispeva k podrobnemu vpogledu v proces prestrukturiranja slovenske tekstilne industrije s precejšnjim zmanjšanjem števila in velikostne strukture velikih in srednje velikih tekstilnih podjetij, ki so bila nekonkurenčna, toga, neprožna in dolgo odzivna, v primerjavi z globalnimi proizvajalci tekstilnih izdelkov in izstopi, ter razmeroma majhnim vstopom novih mikro in majhnih podjetij. Raziskava obravnava

ožje znanstveno področje tekstilne industrije, ki se nanaša na zmanjševanje velikostne strukture in starosti podjetij, kot posledico morebitnih izstopov podjetij v tekstilni panogi in ustanavljanje novih mikro in majhnih podjetij znotraj panoge.

Ključne besede: dinamika podjetij, vstopanje podjetij, izstopanje podjetij, tekstilna industrija, Slovenija
Management 14 (3): 185–203

Izvajanje strategije v organizacijah: konceptualni pregled

Pushpa Rani

Pri postopku izvajanja strategije gre za pristop, pri katerem se cilji, metode in pravila upravljanja izvajajo preko programov rasti, finančnih načrtov in različnih postopkov. Delo organizacije lahko hitro postane neuspešno, če tovrstne strategije niso dovolj dobro izvedene. Ko organizacija načrtuje izvedbo potrebnega strateškega načrta, zagotovo predvidi vse možne težave, kot na primer verjetnost zlorabe nezadostnega kapitala ali tveganje za lastno vrednost v primeru propada podjetja. Konceptualna študija v bistvu predstavlja postopek izvajanja strategije z namenom izboljšanja uresničevanja poslanstva in vizije poslovanja s kakovostnimi izdelki in storitvami, zaradi česar se število kupcev povečuje. Rezultat prispevka dokazuje, da mora za doseganje tako osrednjega, kot tudi vseh ostalih ciljev podjetje poiskati najboljšo možno strategijo.

Ključne besede: izvajanje strategije, načrtovanje, strateški načrt, misija in vizija
Management 14 (3): 205–218

Merjenje vplivov znanosti in raziskav na družbo: razvoj, vprašanja in rešitve

Dušan Lesjak

V zadnjih tristo letih je nemogoče spregledati vlogo raziskav pri doseganju tehnološkega napredka. Uspešna podjetja uporabljajo mehanizme za kvaliteten prenos znanja v gospodarstvo in družbo. Splošno znano je, da znanstvene in raziskovalne dejavnosti niso namenjene same sebi, zato so pomembni tako znanstveni, kot raziskovalni rezultati, pa tudi njihovi socio-ekonomski vplivi. Prispevek zajema analizo socio-ekonomskih vplivov raziskav, ki jih lahko razdelimo na gospodarske, politične/družbene, izobraževalne in druge. Pregled literature izpostavlja pomen socio-ekonomskih vplivov javnega financiranja znanosti in raziskav. Obstajajo številne razvite in uspešne metode za povečanje socio-ekonomskih učinkov na raziskave in razvoj, ter posledično številni dokumentirani primeri dobre prakse v svetu. Vse to omogoča dobro upravljanje raziskovalnih projektov, od priprave, izvedbe, do zaključka in poznejšega razširjanja rezultatov ter njihovega prenosa na

gospodarstvo in negospodarstvo. V prispevku najprej obravnavamo zgodovino merjenja vplivov rezultatov znanosti in raziskovalnega dela, za tem pa oceno socio-ekonomskih učinkov raziskave in s tem povezanih vprašanj. Predstavljene so tudi mednarodne smernice načrtovanja in spremljanja učinkov raziskovalnega dela. Na koncu je predstavljenih nekaj predlogov za rešitve, kako ravnati z merjenjem učinkov rezultatov raziskav.

Ključne besede: znanost, raziskave, rezultati, socio-ekonomski vplivi, merjenje
Management 14 (3): 219–236

Strateško upravljanje kot dejavnik zadovoljstva strank v prehrambeni industriji v Kantonu Sarajevo

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V prispevku se postavlja vprašanje, zakaj se znanje, pridobljeno z nadaljnjim izobraževanjem le redko uporablja pri operativnem in vsakodnevnem poslovanju. Avtorji se ne želijo omejiti le na to vprašanje, temveč se osredotočajo na prenos znanja, pridobljenega med usposabljanjem in na to, kako naj bodo usposabljanja strukturirana, da bi do prenosa sploh lahko prišlo. V ta namen je sprva uporabljen izraz »kompetenca«, ki pa ga ne kaže zamenjati z izrazom »znanje«. Bolj ustrezen izraz za kompetenco bi bil »uporabno znanje«. Sledi koncept meta kompetence. Meta kompetenca je sposobnost uporabe kompetenc, kar je še posebej v interesu vodstvenih delavcev. Na koncu sledi še opis prenosa kompetenc, oziroma sposobnosti uporabe pridobljenega znanja v praksi. Klasična usposabljanja ne omogočajo povezovanja znanja s prakso, ker prenosa kompetenc skorajda ni. Zato je proti koncu tega dela predstavljen učni ukrep, ki sistematično aktivira prenos kompetenc in se nanj tudi osredotoča. Bolj ustrezno poimenovanje tovrstnega usposabljanja bi bilo »razvoj kompetenc«.

Ključne besede: usposobljenost, meta kompetenca, prenos kompetence, razvoj kompetence
Management 14 (3): 237–248