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THE IMPACT OF KNOWLEDGE MANAGEMENT ON WAGE GROWTH IN THE CONSTRUCTION SECTOR: THE CASE OF MEDIUM-SIZED AND LARGE COMPANIES IN THE REPUBLIC OF SERBIA

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The study measures and analyzes the influence of knowledge management on average wages in Serbian construction companies. For the purpose of this research, of Knowledge Management (KM) dataset with 11 variables was created. The main goal of the research was to examine the influence of the dataset on the average wages in medium-sized and large construction companies. At the basic sample level, through factor analysis, a total of four factor scores were isolated, representing the strategies that the companies combine in KM. Using a regression analysis, it was found that the set of the four independent variables explained 84.5% of the average wage variability in the medium-sized and large construction companies. Two of the four strategies were statistically significant. According to the first strategy, the management insisted on a larger share of experts with the master's and bachelor degrees, while the second strategy was based on the introduction of the formal, legal protection and registration of innovative solutions, as well as a larger number of employees with a PhD degree.

Keywords: knowledge management, construction sector, factor analysis, multiple regression, wages, mid-size and large companies

JEL Classification: M21, M150

INTRODUCTION

Information and knowledge are important resources and drivers in the era of the 4.0 Industrial Revolution (Xu, David & Kim, 2018). Therefore, there is a growing interest in the knowledge management discipline. It is a discipline focused on the management and allocation of knowledge and information, with the aim of increasing the efficiency and value of a company. The aim of the paper is to prove the impact of Knowledge Management (KM) on the business variables of Serbian mid-sized and large construction companies. From the group of business

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variables, the earnings of employees were extracted. For the majority of employees, wages are the most important source of income for paying a rent, food and bills, and for paying off loans. Higher-wage employees can afford a more expensive lifestyle (Hartman, 2017). Higher wages are not only a form of rewards, but also a way to earn loyalty. Increasing wages raises employee's morale and productivity. In addition, employees' consumer power grows. Higher employee consumption stimulates production, retail and the service sector. Higher employees' wages have a positive impact on job creation and government revenue through taxes, providing more funding for new projects and services. The construction sector was selected due to its specificity, dynamism and connection with other industries. In economic sciences, the construction sector is considered to have a significant impact on the economic development of one country (Dang & Sui Pheng, 2015).

This paper starts from the basic hypothesis:

H: KM positively affects the average wage growth in medium-sized and large construction companies in the Republic of Serbia.

As a measuring instrument, a KM dataset containing 11 variables classified into five thematic units: academic education, employee training, storage, dissemination and technical support was created. An online closed-ended-response questionnaire with the interval and Likert scales was used to collect the data from the managers of a total of 130 companies. For the purposes of this study, the average wages of the companies' employees were measured. Creating a tool for measuring the level of the wages in companies was a two-stage process. In the pilot survey, the respondents were first asked to directly answer the question: What is the average wage in your company? As no answer was received due to the fact that the question about the wages was direct and of a delicate and sensitive nature, the respondents were offered an interval scale to determine their wages, which did not produce results, either. Therefore, in the second stage, a special wage scale with three numerical degrees was created so as to indirectly obtain the data on the average wage in the Republic. The respondents were asked: Is the average wage in your company lower than, equal to or higher than the national average for the Republic of Serbia (RS)? The data for the average wages in RS for the year 2017 were taken from the Službeni glasnik (7/2018). The impact of KM on employees' wages was measured by using appropriate statistical and econometric techniques.

The chapter entitled The Construction Sector as an Impetus for Economic Growth discusses the specificities of the construction sector and analyzes its impact on the economic development of mature and developing economies. The chapter entitled The Application of Knowledge Management in the Construction Sector defines the concept of KM and highlights its functions in economic sciences and management. Besides, the application of KM in the construction sector is analyzed by using various case studies. In the chapter entitled Empirical Research some of the results obtained from the empirical research on the impact of KM on employees' wages in Serbian companies will be presented.

THE CONSTRUCTION SECTOR AS AN IMPETUS FOR ECONOMIC GROWTH

Due to its dynamism and connection with other industries, the construction sector has a significant impact on the economic development of one country. The development of and an increase in turnover in the construction sector trigger a flywheel, which may lead to a range of economic benefits. In the first place, there is an increase in employment (Mallick & Mahalik, 2010; Stanišić, 2017) due to the induced impact on other business sectors. The development of the construction sector leads to an increase in demand for goods and services necessary for the construction of buildings, bridges, road and railway infrastructures, etc. This has a positive impact on the development of the mechanical and manufacturing industries, trade, services, transport and the financial sector, as construction projects may take a long time and require a continuous inflow of significant funds.

In a study L. Ruddock and J. Lopes (2006) confirmed the positive impact of gross value added as an indicator of the activity in the construction sector on the GDP *per capita* growth in developed and developing countries. Using the Granger causality test and time series regression analysis for the period from 1950 to 2005, a fact was pointed out that there was a connection between the construction sector and the real GDP growth rate in Pakistan (Khan, 2008). Based on the results, a higher flow in the construction sector precedes the GDP growth, while causality in the opposite direction was not found. Pakistan's aggregate economy was found to be heavily influenced by the construction sector. Based on an input-output analysis, A. Wibowo, F. X. Sugiyanto, M. Firmansyah and O. Amoudi (2008) demonstrated the importance of the construction industry for Indonesia's economy. According to the authors, the construction industry significantly contributes to local and national economies, as it has the capacity to generate unskilled, semi-skilled and skilled labor. The construction industry requires the input mobilization from other industries, as well as from production factors, which may lead to a significant increase in the employment rate due to the multiplier effect. Analyzing the role of the construction sector in Turkmenistan's economic development, the authors point out the fact that the construction industry makes a significant contribution to the output and employment in developed and developing countries (Durduyev & Ismail, 2012). Since 2011, considerable funds have been earmarked in Turkmenistan for investment in the reconstruction of the country. The Government of Turkmenistan has provided a range of subsidized housing loans, which has accelerated the development of the construction industry. In addition, a large number of companies have been privatized, which has had a positive impact on competitiveness, productivity and growth in all branches of industry, including construction. However, the authors point out the fact that there is only one construction faculty in the country. As a result, there is a lack of knowledge and skilled workforce in Turkmenistan. Therefore, the authors believe that more educational institutions should be founded in all areas of the construction industry.

Analyzing the impact of the business cycles in the construction sector on the economies of the USA, the UK and South Korea, J. Park, T. Ham and T. Hong (2012) point out the fact that, in many countries, the construction sector is crucial for development, typically accounting for 5-10% of the GDP. The authors point out the fact that construction is closely connected with the financial market. This is evidenced by the developments in the USA mortgage crisis in 2007 that greatly shook the construction sector. In a study on the impact of the construction industry on the economy of Rhode Island, a federal state of the USA (Tebaldi, 2014), the author points out the fact that this industry is important for direct job creation and income in the country, as well as strong connections with other industries, the retail, health and social protection sectors, manufacturing, the food and beverage industry, tourism, the real estate sector and leasing services. Based on Tebaldi's estimates, $10 million in the construction output support 146 direct and induced jobs in the state. Every 100 jobs created in the construction industry support 83 jobs in other sectors through the induced economic activity. According to A. Deutsche (2019), the USA construction industry is in a growing phase. Employment in the construction sector is predicted to increase by 11% in the period from 2016 to 2026, leading to the creation of 750,000 new jobs. Employment growth in this sector is a product of overall economic growth and the population growth, which has led to an increase in demand for housing, roads and other structures.

Regarding the efficiency of the Serbian construction sector, the research study has shown that a systematic approach to the implementation of the measures that would change the institutional environment produces much better results than state intervention and direct financial incentives (Mladenovic, 2013). According to macroeconomic trends report Narodna Banka Srbije (2019, 10), as a result of the adoption of the Law on Planning and Construction and the Law on Investments, there was an increase in the number of issued building permits and an increase in the sector's share in the GDP in 2015-2019 period.

THE APPLICATION OF KNOWLEDGE MANAGEMENT IN THE CONSTRUCTION SECTOR

Obtaining growth in the construction sector is a particular challenge. Achieving business success in this sector by inertia leads to growth and development in other economic sectors. Therefore, the construction sector is an interesting area for the introduction of creative business management strategies. One of those strategies is KM, which may positively impact business variables in construction companies. KM is particularly interesting in the 4.0 Industrial revolution era, when knowledge and information are the key resource(s) for a faster innovation cycle and economic prosperity (Wisniewska-Salek, 2019). From the aspect of economic sciences, KM is the process of acquiring and allocating knowledge resources in order to achieve greater business efficiency and companies' profitability. The beginnings of the creation of the scientific concept of KM date back to the 1990s (Nonaka, 1991; Drucker, 1993; Davenport, 1994). According to Webster's financial and investment vocabulary, KM is the process of creating, institutionalizing and distributing knowledge for the purpose of improving and organizing business processes and practices (Webster, 2010). Explaining the notion of KM, Rose states that it is a concept in which a company consciously and comprehensively collects, organizes, shares and analyzes its knowledge in terms of resources, documents and human skills (Rouse, 2013). KM refers to the technologies involved in the creation, dissemination and use of knowledge data (Girard & Girard, 2015).

In the 21st century, KM is applied in the construction sector, as evidenced by a large number of scientific studies. A case study (Forcada, Casals, Roca & Gngolells, 2006) describes the strategy of introducing KM into a Spanish construction company, Natur System, specialized in facade restoration and recovery. ICT platforms with software adapted for the creative storage of knowledge and the procedures related to the functioning of small and medium-sized construction companies were used as the main instrument for strategy implementation. At the request of Natur System Company, the software was adapted in order to filter information in the following segments: quality, the environment, the safety and health aspect, progress, changes, contracts, pricing, projects, risk and programming. The main objective was to increase the efficiency of the company and improve its cooperation with clients and relevant companies. After the testing on the main façade restoration project at 359 Balmes Street in Barcelona had been completed, the authors concluded that the introduction of the conceptual ideas of KM brought benefits to the overall management of construction companies. Improvements in documentation management and cooperation among the employees within the company were noticed, the exchange of useful information with clients and other companies was improved. However, the transaction costs related to the problem of the employees' adoption of and adaptation to new technologies were reported (Forcada *et al*, 2006).

According to C. Leal, S. Cuhna and I. Cuoto (2017) the construction sector is going through a period of instability and recession, which is one of the causes for the insufficient adaptation to the knowledge era. The authors would like to highlight the inhibitory and suitability factors of knowledge sharing in the construction sector (Table 1).

The authors conclude that the collaboration of researchers in the IT field may contribute to overcoming inhibitions for knowledge sharing in the construction sector. The development of a more creative piece of software for the acquisition and sharing of knowledge will encourage and motivate employees in the construction sector to share knowledge not only as a duty, but also as a desire. H. Robinson, P. Carrillo, C. Anumba and M. Al-Ghassani (2001) conducted a research on the results of the implementation of KM in large construction companies in the United Kingdom. The research study covered a total of 170 companies with a turnover greater than £50 million (Robinson *et al*, 2001). Large companies were selected because they had the biggest need for the introduction of KM and because of the assumption that they had the greatest financial and human resources to implement this

type of innovation. According to the authors, small organizations are also keen to adopt the concept of KM, but they are faced with a lack of skill resources in employees, as well as financial constraints. Based on the results, the authors conclude that a large number of construction companies are aware of the benefits of KM. However, companies face barriers to the implementation of concepts such as a lack of money, a poor IT infrastructure, organizational culture, and time constraints.

Table 1 The individual, organizational, inhibitory and facilitating factors of knowledge sharing in the construction sector

	Individual factors	Organizational factors
Facilitators	• Conformity to corporate culture • Reciprocity • Perceived value and the uniqueness of knowledge • Peer recognition • Honoring knowledge sharing commitments • Mimicking leaders' behavior	• Financial/social motivations • Culture
Inhibitors	-	• Resources - mainly time • Mainly the male sector • High turnover • Low level of training/ intellectual capital • Culture

Source: Leal *et al*, 2017

A. Javernick-Will (2012) examined the reasons for employees' sharing knowledge in the USA construction and real estate companies. In a qualitative case study, conducted on a sample of 48 employees in 13 companies, the author identified the four major factors that influence knowledge sharing and the perception of organizational knowledge value: resources, intrinsic motivation, global incentives and social motivation. The vast majority of the respondents cited social motivation, reciprocity, alignment with corporate culture, the imitation of leaders, the awareness of the importance of sharing knowledge and information with colleagues, respect for the obligation to share knowledge, and the perception of organizational knowledge values as the reasons for motivation for knowledge sharing. A. Javernick-Will (2012) also outlines the strategies that may help employees increase knowledge sharing across companies. The author notes certain disadvantages of the application of the qualitative method in this field. She states that future research should increase the sample size and use quantitative methods with a standard questionnaire. This would measure the ranking of the importance that the respondents attach to the motivational factors revealed in the research study. Increasing the sample would also allow comparative research with the European companies that cultivate different business patterns. According to S. Asad, M. Khalfan and P. McDermott (2005), the application of KM in the construction sector leads to improvements in processes and products (due to knowledge exchange in the supply chain), saving money (due to the centralization of communication among business partners) or an increase in earnings, as a result of using centralized knowledge as a source of competitive advantage for building new and retaining old. The construction industry faces low productivity, which Grover and Froese see as a reason for scarce KM (Grover & Froese, 2016). The authors noted that the mistakes made in one construction project are repeated in future construction projects. The main objective of their research was to evaluate the usefulness of social platforms for the management of tacit knowledge in the construction industry. An analysis of the implementation of social platforms in the construction industry was conducted in a case study of the Vancouver AYO Smart Home company at a time when demand for low-cost, durable and energy-efficient housing was growing in Canada. Social platforms use applications to facilitate communication and collaboration between different project stakeholders. According to the authors, using an application should enable the participation of two or more individuals in the creative process,

the exchange of collective skills, expertise, a better understanding of information, all in a business atmosphere of openness and mutual respect.

EMPIRICAL RESEARCH

Sample and Dataset Design

The sample includes companies from Belgrade, Novi Sad and Niš, as the largest business centers in Serbia. The sample covers the following five economic sectors: industrial, construction, IT, commercial and services. When planning the sample, due care was taken that the share of the economic sectors in Serbia's GDP was credibly maintained in the sample (Republički zavod za statistiku, 2018). In the selection of companies, due care was taken to maintain a realistic ratio in the sample when the number of micro-, small, medium-sized and large companies in Serbia is concerned. The criteria from the applicable Law on Accounting (Vlada Republike Srbije, 2013) were used to define the company size. The sampled companies were selected from the list of the Business Directory of Serbia (Stojanovic, 2018) by using the simple random sample method without repetition. An online closed-ended-response questionnaire with the interval and Likert scales was used to collect the data. The managers of the selected companies were included in the survey. The interview was being conducted from November 1 to December 15, 2018. The questionnaire was distributed three times at 15-day intervals. The second and third times, the questionnaires were sent again to the companies that had not submitted their answers after the first and second attempts. Out of the 360 questionnaires sent, the responses were received from 130 companies, representing the basic sample. Table 2 shows the number of the companies by size and sectors.

The so-called segmented sample, which includes a total of the 12 medium-sized and large construction companies extracted from the basic sample, was also used in the subject-matter analysis.

Table 2 The number of the companies by size and business sectors

Business sector	Company size				Total
	Micro	Small	Medium	Large	
Industry	4	9	10	8	31
Construction	8	10	7	5	30
IT sector	7	8	2	3	20
Commerce	6	7	5	3	21
Services	6	13	4	5	28
Total	31	47	28	24	130

Source: Authors

For the research purposes, a dataset for measuring KM in the companies was created. The dataset consists of the 11 variables classified into the five thematic units: the first unit, called academic education, includes the following three variables: the proportion of the employees in the company with a bachelor, master's and PhD degrees; the second unit, called employee training, involves the following variables: attending seminars and courses outside the company, as well as educational seminars and courses inside the company; the third thematic unit, called storage, consists of the following variables: the presence of an organized procedure for storing necessary knowledge useful for the functioning of the company and the existence of a system for the protection and registration of innovative solutions and procedures in the Intellectual Property Office; the fourth unit, called dissemination, contains the following two variables: the existence of an obligation for participants in innovative knowledge seminars to report on the results to their respective departments, sectors or immediate colleagues, as well as the variable that measures the existence of the employees' obligation to inform their colleagues about the results concerning the activity of the company upon returning from a business trip (after visiting fairs,

exhibitions and other business events); ultimately, the fifth unit, called technical support, includes two variables: the first variable evaluates a possibility of accessing the intranet in companies, and the second measures a possibility of accessing virtual libraries and knowledge bases. The variables were measured by using the interval and four-point Likert scales, where 1 is the minimum, and 4 is the maximum value of the measured indicator. The survey also includes the measurement of the companies' business variables.

Model, Analysis and Results

A total of 11 variables from the KM measurement dataset were processed by the factor analysis technique at the basic-sample level including all the five sectors (n = 130). The initial idea was to isolate a number of the complex factors that would later be linked to the companies' business variables. The analysis started with the following basic model:

$$X_i = a_{i1}F_1 + a_{i2}F_2 + a_{i3}F_3 + a_{i4}F_4 + e_i \quad (1)$$

where X is the value of the factor score, i is the sequence number of the variable, F represents the factors, a is the factor loadings, and e is the specific factor related only to the given variable.

A factor analysis using the maximum likelihood extraction method was used in the study (Millar, 2011). The extraction algorithm in the maximum likelihood variant (Field, 2005) is so set that the maximum likelihood of the options Λ and $\psi 2$ is obtained by minimizing Equation 2:

$$F=tr[(\Lambda\Lambda'+\psi 2)^{-1}R]-log|(\Lambda\Lambda'+\psi 2)^{-1}R|-p \quad (2)$$

and according to Λ and $\psi 2$, respectively, where p represents the number of the variables, Λ is the factor loading matrix, and $\psi 2$ is the diagonal matrix of the unique variance.

F is minimized through a two-step logarithm. In the first step, the conditional minimum for F_i calculated for the given y. In this way, the function $f(\psi)$ is obtained and numerically minimized by the Newton-Raphson method (Field, 2005; Ahmad, Naing & Hussein, 2007). As all the necessary conditions of Kaizer-Mayer and Bartlett's test for continuing the analysis were met (Field, 2005), the factor analysis procedure started. Following the varimax rotation, the four significant complex factors were identified. The factor loadings are shown in Table 3. Cumulatively observed, the four factors explain 50% of the total variance. Generally, the minimum value of the factor loadings considered in studies is ±0.3, while the factor loadings with values ±0.70 are considered as indicative for the well-defined structure and they are a true target of the factor analysis (Hair, Black, Babin & Anderson, 2010). Accordingly, all the cells with significant factor loadings in Table 3 are colored gray.

At the basic-sample level, the four factors that represent the strategies that the companies used and combined in KM were extracted. Factor 1 includes the strategy that relies on attending educational seminars inside and outside the company, the obligation to report to departments, sectors or their immediate colleagues on the results of innovative knowledge seminars, subscription fees for accessing virtual libraries and knowledge bases, and organizing knowledge storage procedures useful for the functioning of the company. Finally, as part of this strategy, the companies strive to have as many professionals with a college degree as possible among the employees. Factor 2 contains the strategy that includes an obligation for employees to inform their colleagues about their business performance results upon returning from business trips, the obligation to report to their respective departments, sectors or immediate colleagues on the results of innovative knowledge seminars and knowledge storage procedures useful for functioning of the company. Within Factor 3, KM relies on the strategy that seeks to maximize the percentage of professionals with a master's and bachelor degrees among the employees. Factor 4 implies the strategy that emphasizes the existence of the system of formal legal protection and registration of innovative solutions and procedures in appropriate institutions, as well as the largest possible number of employed experts holding a PhD degree. The company's management may use one

Table 3 The rotated factor matrix[a] n=130

	Factor			
	1	2	3	4
The number of the employees with a bachelor degree, in %	.308	.053	.460	.125
The number of those with an MSc/MA degree, in %	.055	.064	.826	-.021
The number of PhDs	.120	-.019	.207	.430
Attending seminars and courses outside the company, in %	.544	.091	.086	.124
Attending educational seminars and courses inside the company, in %	.948	.046	.208	.078
Are there organized procedures for storing necessary knowledge useful for the functioning of the company?	.388	.332	.191	.106
Is there a system of protection and registration of innovative solutions and procedures (in the Intellectual Property Office)?	.159	.047	-.119	.798
Do participants in innovative knowledge seminars have the obligation to report the results to their respective departments and sectors, or immediate colleagues?	.486	.370	-.070	.216
Upon returning from business trips (after visiting fairs, exhibitions and other business events), are employees obliged to inform their coworkers about the results concerning the company's activities?	.168	.969	.070	-.164
Is there access to virtual libraries and knowledge bases?	.575	.155	.097	.132
Are you connected via the intranet?	.067	.218	.024	.178

Extraction Method: Maximum Likelihood. Rotation Method: Varimax with Kaiser Normalization.

[a]Rotation converged into 5 iterations.

Source: Authors

KM strategy or combine multiple KM strategies as well. The choice of strategies depends on the business sector, the company size, the business environment and other circumstances.

Using the obtained four-factor score, it is possible to measure the impact of KM strategies on a company's business variables. The study measured the impact of the factor scores on the 'wages' business variable. The employees' wages were measured over the wage scale consisting of three numerical degrees. In the survey, the following question was used: Is the average wage in your company lower than, equal to or higher than the national average for The Republic of Serbia? The impact of the four-factor scores on the wages in the medium-sized and large construction companies was analyzed. The operational hypothesis H1 was tested: The regression factor scores 1 - 4 (as the independent variables, the predictors) influence the change in the dependent variable called the wages of the employees in the company' in medium-sized and large construction companies. In order to test the hypothesis, a segmentation of the basic sample was performed, extracting a total of 12 medium-sized and large construction companies. After the segmentation, the following multiple regression model was set:

$$w_i = \beta_0 + \beta_1 fi_1 + \beta_2 fi_2 + \beta_3 fi_3 + \beta_4 fi_4 + \varepsilon_i \qquad (3)$$

where, for $i = n$ observations:

wi = the dependent variable (the company's average wage)

$\beta 0 = w$ intercept (the constant)

β_1 = the slope coefficient of the predictor f_{i1}

β_2 = the slope coefficient of the predictor f_{i2}

β_3 = the slope coefficient of the predictor f_{i3}

β_4 = the slope coefficient of the predictor f_{i4}

$f_{i1}, f_{i2}, f_{i3}, f_{i4}$ = the independent variables or predictors (the regression factor scores 1 - 4)

ε_i = the random error

The results show significant values for all the three R coefficients (Table 4). Due to the limitations of the smaller sample, the adjusted coefficient R^2, which has more severe criteria, is used in the analysis. Based on the value of the adjusted R^2, the set of the four predictor variables explains 84.5% of the variability of the employees average wages.

Table 4 The medium-sized and large construction companies: the regression analysis model summary

Model	R	R^2	Adjusted R^2	Std. error of the estimate
1	.949a	.901	.845	.153

[a.] Predictors: (Constant), REGR. factor score 4 for Analysis 1, REGR. factor score 2 for Analysis 1, REGR. factor score 1 for Analysis 1, REGR factor score 3 for Analysis 1

Source: Authors

Table 5 shows the contributions by factor scores. Factors 3 and 4 have a statistically significant effect on the employees' average wages. Accordingly, construction company management use a combination of the two KM strategies.

The first strategy involving the efforts of the management to have as high a percentage of professionals with master's and bachelor degrees as possible among the employees. Management sees in experts the sources of innovative solutions useful for the company.

Table 5 The medium-sized and large construction companies: Coefficientsa

Model		Unstandardized coefficients		Standardized coefficients	t	Sig.
		B	Std. error	Beta		
1	(Constant)	2.281	.099		23.067	.000
	REGR factor score 1 for Analysis 1	-.040	.119	-.083	-.336	.747
	REGR factor score 2 for Analysis 1	.037	.091	.055	.406	.697
	REGR factor score 3 for Analysis 1	.731	.166	1.209	4.400	.003
	REGR factor score 4 for Analysis 1	.302	.108	.451	2.797	.027

[a.] Dependent variable: Is the average wage in your company lower than, equal to or higher than RSD 47893, the Republic average in Serbia?

Source: Authors

The second strategy implies the introduction of the formal legal protection and registration of innovative solutions and procedures in the Intellectual Property Office, as well as insisting on a larger number of employees with PhDs. Given the value of the coefficient β_1, the first strategy individually leads to a larger increase in the average wages in the company. When the factor score 3 jumps by one point, employees' wages increase by 0.731. If the factor score 4 goes up by one point, wages jump by 0.302. It can be concluded that the hypothesis H1 has been confirmed. No segmentation and differentiation in the context of the medium-sized or large companies in particular was possible since, in this case, the sample size fell below the statistically acceptable limit.

CONCLUSION

In this study, the impact of KM on wages growth in medium-sized and large construction companies in Serbia was analyzed. For the purposes of the research study, a KM dataset consisting of 11 variables was created. After a factor analysis, the strategies applied in KM were identified. Then, the impact of the regression factor scores on the change in the dependent variable called average wages in medium-sized and large construction companies was analyzed. Based on the obtained value of the adjusted coefficient of determination R2, the regression factor scores were found to explain 84.5% of the variability of the average wages of the company's employees', thus confirming the hypothesis H1. Construction companies management combine two statistically significant strategies for KM. In the first strategy, management strive to have as many employees with a master's and bachelor degrees as possible among their employees, seeing them as a potential source for company innovation. The second strategy involves the implementation of the legal protection and registration of the company's innovative solutions and procedures in the Intellectual Property Office, as well as the efforts to recruit more employees with PhDs. When the regression factor score 3, which refers to the first strategy, increases by one point, employees' wages increase by 0.731. When the factor score 4, pertaining to the second strategy, increases by one point, wages in construction companies jump by 0.302. Speaking about the sample, certain limitations related to the small, segmented sample may be observed. However, based on the insight into a very clear trend in the responses received, it is believed that a larger sample would not influence change in the results.

P. Romer (Brueck, 2018) emphasized the importance of the impact of endogenous knowledge accumulation for increasing income. P. Romer pointed out the fact that, instead of repeating the same movements over and over again, working hard in factories or on computers, people could rearrange the world and discover new ideas through knowledge accumulation. In the idea market, there is a snowball effect. As Romer says: „The more we know, the easier it gets to discover".

The implications of the research results are primarily related to the orientation towards the company internal market. The notion of an internal market implies that the managerial and ownership structures see employees as the consumers of "products", among which wages and money stimulants, hierarchical positions, trainings, etc. are the most important. Given the fact that the number of these "internal products" is limited, the importance of wages, which provides an opportunity for a gradual approach compared to the demonstrated knowledge and contributions, remains paramount. For this reason, according to the research results presented in this paper, KM in a segmented internal market produces significant implications for company results.

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