

THE IMPACT OF SOFT SKILLS DEVELOPMENT ON THE PERFORMANCE AND PROFITABILITY OF CONSTRUCTION COMPANIES: A CASE STUDY IN THE CZECH REPUBLIC

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Abstract:

Research background: This study examines the potential impact of modifying the profiling of management and professional abilities on the performance of construction companies, with the aim of enhancing the value delivered by these organisations to their owners and consumers. To obtain a response to this inquiry, we conducted a comparative analysis of 41 construction firms operating in the South Bohemia region of the Czech Republic.

Purpose of the article: In contemporary society, operational managers bear a significant responsibility for effectively guiding their subordinates towards the achievement of organisational objectives. Simultaneously, it can be argued that, considering the unavoidable transformations in the labour market, employers must embrace the skills required for the future to effectively respond to the rapidly evolving corporate landscape.

Methods: This investigation involved the utilisation of correlation analysis, a one-criteria analysis of variance, and the chi-square test. Our research has provided a strong focus on the distinctive characteristics of first-line managers. Instances of this phenomenon can be observed inside construction enterprises, where it is manifested through the roles of foremen and group leaders.

Findings & Value Added: Moreover, fostering a wider range of soft skills is not only beneficial but also imperative. This assertion can be substantiated by illustrating the necessity for employers to embrace future-oriented talents as a means of effectively responding to the rapidly increasing pace of change within the business landscape. The implications of the solution's findings suggest that the matter of managerial and professional abilities within the building sector is presently relevant, essential, and holds social significance. This assertion holds validity when considering the industry's transformations that arise directly from the crisis.

Keywords: managerial competencies; organizational management; crisis conditions; soft skills; management

JEL Classification: J53; L25; M12

1. Introduction

According to the theoretical foundations of scientific management, which are now taught in universities with an economic profile, this discipline is perceived as a system of managerial authority and control (Manaf et al., 2020). In terms of management and professional skills, the construction industry is behind other industries. This lack of competence results in poor project outcomes, cost and time overruns, and loss of value to the company. To improve the performance of construction companies and increase their value to both the owner and the client, it is necessary to fundamentally change the profile of managerial and professional competencies. In a dynamic business environment, most companies already recognize that effective, focused, and creative management is key to the future sustainability of construction companies. However, not all companies have created the appropriate conditions for the innovation of managerial competencies in their internal environment. The relationship between human capital and economic performance has long been known and respected by the management of companies, but it is not always implemented in corporate practise. As a result, the public administration tries to support the development of specific types of work skills (Siepel et al., 2019). Peri et al. (2015) suggest that the presence of educated managers and other workers is associated with higher value-added creation, regional levels of labour productivity, wage growth, and the development of digitalisation and robotization processes. Several international studies have shown that the economic stagnation of some EU countries and their declining productivity are due to insufficient or absent managerial skills. This reality of many sectors, including construction, can be documented in several scientific outputs that address this issue (Erceg and Zoranovic, 2020). According to a survey conducted by the European Commission, the level of managerial skills and competencies is related to the level of data and knowledge management (Ada et al., 2021). The management paradigm continues to deepen because of first the COVID pandemic and then the energy, material and political crises. There is an existential need for all sectors, including the construction industry, which has been significantly affected by these crises, to change, especially to implement changes in the education and profiling of managers at all levels of management.

2. Literature Review

It is objective to state at the outset of this section that many managers now perceive corporate strategy as a business strategy comprised of business product models. Entrepreneurial or business strategy has a significant impact on the development, growth, and profitability of SMEs (Latifah et al., 2020), which are predominant in the construction industry. Since business strategy dictates the long-term direction and goals of an organisation, it can also facilitate the achievement of competitive advantage in many ways (Wang et al., 2021). Competitive advantage is the key to the success of a business, and business strategy is a long-term plan to achieve competitive advantage by influencing the financial behavior of the business (Dobrovic et al., 2019). According to Porter (1980) and Yuan et al. (2020), business strategy is based on the activities of the business and the decisions that management makes are in response to changes in the business environment. In recent years, the concept of business strategy has changed significantly, among other things, due to the huge reduction in the time required for

innovation (Gavurova et al., 2021). Consequently, it is natural that businesses look for ways to significantly reduce costs, maximise customer satisfaction, and often use, for example, outsourcing (Hira, 2019). Regardless of technology or environment, business owners and managers must employ change management frameworks and techniques (Keengwe et al., 2009). Business enterprise models should be applied in accordance with the internal corporate environment, especially the intermediate environment that determines the competitive ring of a given company (Strakova et al., 2017). The value chain also contributes to a sound strategic analysis of opportunities and risks as one of the basic tools to build a successful competitive strategy (Strakova et al., 2020). Education and skills of managers and employees, as well as the size of the company, must also be part of the enterprise strategy (Qehaja and Kutllovci, 2020). The new concept of an enterprise's business models consists in establishing its value-creating processes and distinguishing them into primary processes where value is added (margin) and supporting processes (Talir and Strakova, 2023).

According to Domanizova et al. (2021), Bidmon and Knab (2018), established businesses do not respond to crises by adopting new technologies, business perspectives and models. The rationale given is that established companies in the industry are trapped in leveraging their existing assets, capabilities, strategic commitments, value networks, and business strategies (Onufrey and Bergek, 2021). Zimmer et al. (2017) emphasise the need for fundamental innovation in business processes, while Koster et al. (2017) highlight the link between the innovation process in a firm and the development of new products and services. Pedersen et al. (2018) examined the links between business process innovation, corporate sustainability, and organisational value and identified their interconnectedness and interdependence. Business managers are looking for modern approaches and strategies to compete with rivals and provide innovative, attractive, and quality goods and services to their customers at competitive costs (Do et al., 2020). In this context, process quality management is a feasible and sustainable alternative that can systematically contribute to the consolidation of an organisation's production capacity (Androniceanu, 2017). According to Abdul-Rashid et al. (2017), it is necessary to set acceptable constraints for sub-business processes, production processes and managerial capabilities.

Although most business managers are results-orientated, few decisions respect the value of human capital in business processes as a carrier of added value (Capestro and Kinkel, 2020; Pelster and Schaltegger, 2021). Human capital has become a matter of strategy within management systems in the current economic environment (Boon et al., 2018; Niculae et al., 2019). Investing in people is the first and most important element of a sustainability plan that uses talent as the main driver of human capital growth (Bonner et al., 2022). According to Gianchandani (2018), 77% of the world's youth workforce will be made up of young people between the ages of 15 and 25 in Asia, Africa, and the Pacific, and with an estimated 70.9 million of these people estimated to be unemployed, it is critical to invest in their potential and develop their skills and capabilities. It is essential to recognise that people represent the human capital of organisations and that everyone should be able to use and develop their skills to provide quality services to the public (Sousa and Nobrega, 2018). It is no coincidence that the initial phase of purposeful design or modelling of organisational processes has focused on the business and sales domains, and it should be objectively stated that this trend continues. This can be explained by the paramount importance of satisfying consumer needs, which is a prerequisite for the competitiveness of the company. Perceiving human capital as a part of the overall capital of the enterprise is a prerequisite for solving all crisis situations (Plotnikov and Pirogova, 2018). This is also related to the change in the behaviour of company employees (Tafvelin et al., 2020). In 2009–2013, Traylor et al. (2021) found that employee performance

was not systematically evaluated; therefore, soft skills were prioritised over hard competencies. Soon, companies with good production potential and talented individuals will become more competitive, and talented employees must play a vital role in achieving strategic goals due to their valuable knowledge and skills (AlQershshi et al., 2020). As a result of technological advances, human capital and production technologies compete in all sectors. Therefore, it is essential to adapt and recognise the need to acquire new skills early on to increase one's own capabilities (Pasch, 2019). However, not all levels require the same competencies, and it is essential that a company to determine which component falls into which category (Zhou et al., 2018). In the construction industry, setting competencies can increase the efficiency of each department and allow the organisation to achieve its objectives. A company can positively influence competencies by continuously improving them and improving them in many ways (Pratolo et al., 2020). In a study by Amdani et al. (2019), it was confirmed that competencies positively and significantly affect the performance of these employees.

Companies are trying to enter the digital sphere and sell their products and subsequently their services through their websites and the Internet (Tolstykh et al., 2019). Mazurchenko et al. (2020) suggest that the successful use of employees' digital knowledge, skills, interests, and experiences varies significantly by the main sector of the organisation. According to Tolstykh et al. (2019), the digital revolution is radically changing the way businesses operate. In the construction industry, these changes are resonating more and more strongly, not always matched by managerial behaviour and their level of competence corresponding to the current level of construction technology. Therefore, managers of these enterprises are looking for modern approaches and strategies to compete with rivals and provide innovative, attractive, and quality products and services to their customers at competitive costs (Do et al., 2020). Production and business process management are feasible and sustainable alternatives to construction. These processes systematically contribute to the consolidation of a company's production capacity (Androniceanu, 2017). According to Abdul-Rashid et al. (2017), product-based business processes and the corresponding managerial competencies are essential. The goal is to achieve a balance between sustainable production processes and economic sustainability, taking into account environmental, economic, and social factors in addition to managerial decision making (Hannila et al., 2020). The authors of the study believe that there will be an opening of a discussion in the field of the new profiling of managers in line with the ideas of new and circular economies, as well as the social challenges of our time.

According to the literature review conducted, the research activities and the following hypotheses and research questions were established:

Q1: What management competencies are the most important and most used in the construction industry?

H1: The age of the employee influences the number of practical and managerial competencies acquired.

H2: The level of soft skills is conditioned by the level of hard skills in the context of work performance.

H3: There is a synergy between the employee's level of soft skills and the type of self-learning required by the employee.

3. Methodology

The database covers the years 2020 to 2022 and consists of 41 construction companies operating in the regional area of the Czech Republic. The test set includes all sizes of construction companies. Statistical data processing used correlation analysis, one-criteria

ANOVA, and Chi-Square. The correlation analysis will analyse the dependence between the selected variables using the correlation coefficient r , which ranges from -1 to 1. If the correlation coefficient is close to 1, it is a direct relationship. If the result is close to -1, it is an indirect relationship. The last form is independence, which occurs when the value of r is equal to 0 (Dwiyanti et al., 2021; Katthi and Ganapathy, 2021). The one-criteria mathematical model of ANOVA will be used to test the hypotheses to prove the relationship between the quantitative variable and the factor. The result of the analysis is the p-values, where a p-value greater than 0.05 (Akabay et al., 2019; Kim, 2022) confirms the validity of the set hypothesis. ANOVA sample is calculated:

$$y_{ij} = \mu + \alpha_i + \varepsilon_{ij}, \quad (1)$$

where y_{ij} is measured value
 μ is mean value
 α_i is change in the measured value caused by a factor
 ε_{ij} is experimental error

Following the previous model, the Chi-square test will be used to statistically test the agreement between expected and observed values. Chi-square should only be used for a certain frequency of data, as otherwise it may lead to erroneous data. As with the ANOVA method, we only perform hypothesis testing if the p-value is greater than 0.05 (Berrett and Samworth, 2021; Xu et al., 2019). Pearson's goodness-of-fit test is calculated:

$$\chi^2 = \sum_{i=1}^k \frac{n_{ei} - n_{oi}}{n_{oi}}, \quad (2)$$

where n_{ei} is experimental frequency
 n_{oi} is theoretical frequency

4. Results

According to the context of the research question, a correlation analysis was carried out in the first stage of the investigation, in which the interdependence of competencies (the so-called hard competencies) was analysed in terms of occurrence, that is, which competencies are used most often together, and in terms of importance, that is, which competencies are most valued by employees in terms of their managerial function. The results of the correlation analysis are presented in Figure 1, including the legend relating to each competency.

The highest value of perceived contingency between A1: 'managerial' and A2: 'organisational', then A1: 'managerial' and A3: 'personnel', and finally A3: 'personnel' and A7: 'social' can be considered as new and innovative knowledge in the field of managerial competencies. This finding confirms in practise the ongoing process of innovation of managerial competencies built on four pillars, namely managerial, organisational, personal, and social. The dominance demonstrated in the parameters A1 and A2 "organisational management". It is assumed that there will be an increasing significance between the domain's "personnel" and "social", where the latter will increase in importance in the context of increasing crises in society and the corporate sphere. The perceived relevance of competencies with a medium level of conclusiveness was identified between parameters A3: 'personal' and

A1: 'managerial', and for parameter A5: 'conceptual'.

Figure 1: Results of the correlation matrix

What kind of competence do you use the most?								
	1.000	0.660	0.658	-0.035	0.481	-0.203	0.528	A1
	A1	1.000	0.535	-0.084	0.480	-0.334	0.556	A2
A1	1.000	A2	1.000	-0.118	0.557	-0.105	0.608	A3
A2	0.580	1.000	A3	1.000	0.203	0.532	-0.084	A4
A3	0.741	0.557	1.000	A4	1.000	-0.026	0.366	A5
A4	0.230	0.281	0.238	1.000	A5	1.000	-0.152	A6
A5	0.568	0.532	0.654	0.487	1.000	A6	1.000	A7
A6	0.120	0.114	0.240	0.569	0.422	1.000	A7	
A7	0.535	0.535	0.586	0.149	0.534	0.211	1.000	
What competencies are you most important?								
Legend:				A4	Technical			
A1	Control			A5	Conceptual			
A2	Organisational			A6	Manual dexterity			
A3	HR			A7	Social			

Source: authors

In a follow-up stage, the so-called soft skills domain, which are functionally related to the competencies tested in the previous table, was analysed using correlation analysis. Testing these competencies only makes sense if they are linked to the daily tasks of business managers, in our case, construction managers, performed by managers throughout the work cycle. It is objective to state that the dominance of individual managerial competences also depends on the contract portfolio of construction companies. The researchers tried to create a test set of companies with similar or close construction activities. The results are presented in Figure 2.

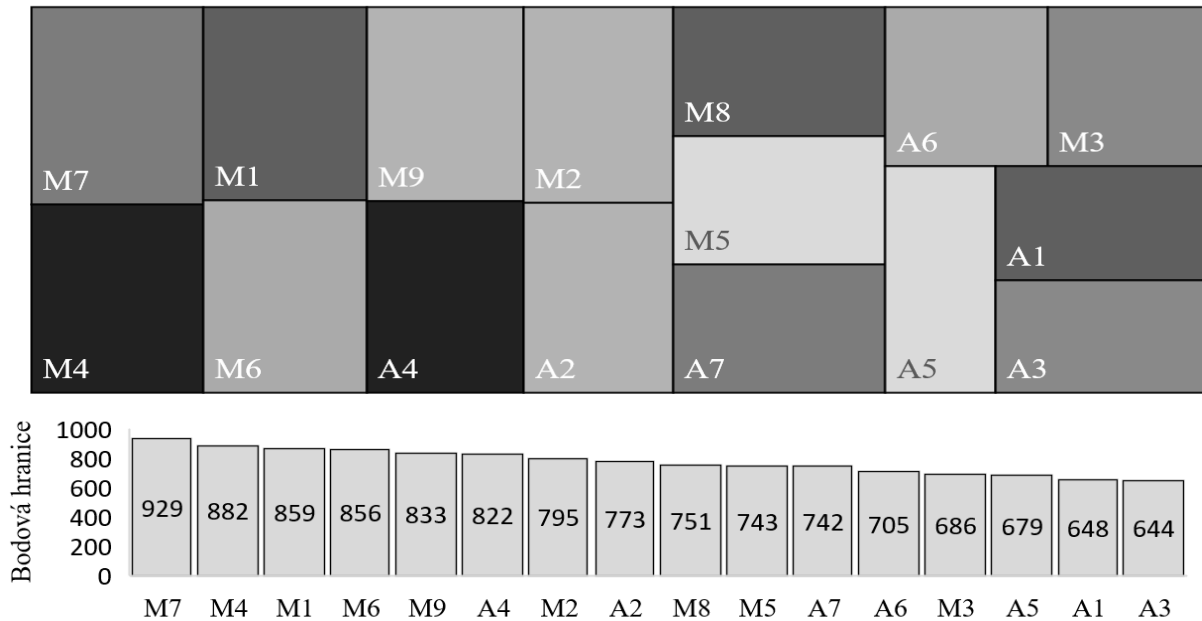
Figure 2: Results of the correlation matrix

	M1	M2	M3	M4	M5	M6	M7	M8	M9	
M1	1.000									
M2	0.501	1.000								
M3	0.372	0.392	1.000							
M4	0.484	0.399	0.437	1.000						
M5	0.567	0.289	0.532	0.444	1.000					
M6	0.516	0.362	0.209	0.428	0.436	1.000				
M7	0.564	0.376	0.183	0.502	0.287	0.561	1.000			
M8	0.672	0.428	0.376	0.475	0.591	0.485	0.435	1.000		
M9	0.398	0.343	0.271	0.381	0.197	0.412	0.528	0.369	1.000	
Legend										
M1	Communication skills			M4	Critical thinking			M7	Independence	
M2	Teamwork			M5	Empathetic approach			M8	Assertiveness	
M3	Creativity			M6	Flexibility			M9	Lifelong learning	

Source: authors

The parameter with the highest reliability coefficient was M1 “communication skills” with M8 “assertiveness” with a coefficient of 0,672, followed by M5 “empathetic attitude” with M8 “assertiveness” with a coefficient of 0,591. The conditional relationship between M1 “communication skills” and M5 “empathetic approach” was also found with a coefficient of 0,567. There is a consensus in the scientific and professional community that the two types of competence are mutually conditional, integrated at the same time. Therefore, it is recommended to maintain this concept in the field of corporate management education by strengthening and improving them in business managers. This observation led to the development of Figure 3, which shows both their conditionality and the frequency of individual managerial competences in their management and decision-making process.

Figure 3: Results of the correlation matrix



Source: authors

The most widely used evaluation metric was M7, followed by M4 in terms of A4 and A2. Our investigation continues with the assessment of managerial and professional skills to confirm the statistical significance of the distinctive factors evaluated. The results of the analysis are presented in the following table (Table 1).

Table 1: ANOVA one-criteria test: management competence

ANOVA test	Tested factor: a 1 – “management competence”				
	Df	Sum Sq	Mean Sq	F value	Pr (>F)
Working positions	5	9.69	1.9371	2.113	0.0653
Residuals	205	187.94	0.9168		
Length of time in post	3	3.98	1.3282	1.42	0.238
Residuals	207	193.65	0.9355		
Higher educational qualification?	3	2.97	0.9898	1.053	0.37
Residuals	207	194.66	0.9404		
Age group	2	2.43	1.2142	1.294	0.276
Residuals	208	195.20	0.9385		
	Tested factor: a 4 – “technical competence”				
	Df	Sum Sq	Mean Sq	F value	Pr (>F)
Working positions	5	16.43	3.286	3.928	0.00201 **
Residuals	205	171.49	0.837		
Length of time in post	3	8.02	2.6718	3.074	0.0287 *
Residuals	207	179.91	0.8691		
Higher educational qualification?	3	7.1	2.3677	2.711	0.0461 *
Residuals	207	180.8	0.8735		
Age group	2	3.46	1.7301	1.951	0.145
Residuals	208	184.46	0.8868		

Note: [Signif. Codes: 0 ‘****’ 0.001 ‘***’ 0.01 ‘**’ 0.05 ‘*’ 0.1 ‘.’]

Source: authors

Due to the limited capacity of the paper, the results of hard-competency analyses are presented. The results of the analysis are presented in Table 1. The assumptions were not confirmed. Strong and statistically significant outcomes were not obtained for both types of competencies. From this perspective, the factor “job position” can be more favourably evaluated for the management competencies, whose p-value was close to the acceptance value of 0,0653, indicating minimal statistical dependence. This can be explained by the very strong

interdependence of the two parameters tested. For technical competence, the results are more positive, where the highest p-value of 0.00201 was found for the job position, followed by ‘work time’ with a p-value of 0.0287 and 0.0461, was for ‘type of education’.

The last stage of the research activities was the implementation of “Structural Equation Modelling” using chi-square. The aim of this part was to find out the statistical significance between the form of training, feedback from subordinates, and soft and hard skills level acquired in relation to employee’s job performance. The findings of this part of the solution are presented in Table 2.

Table 2: Results of the Structural Equation Modelling: Chi-square test

External links from Structural equation modelling – Chi-squared test			
What kind of education would be the most suitable for you?	X-squared	df	p-value
How do you handle feedback from subordinates, colleagues?	7.2169	4	0.1249
How do you process feedback from subordinates, colleagues?	X-squared	df	p-value
What is your level of soft skills?	8.8062	8	0.3589
What is your level of soft skills?	X-squared	df	p-value
Does your level of soft skills affect your job performance?	60.897	16	3693E-6
Does your level of soft skills affect your job performance?	X-squared	df	p-value
Does your level of hard skills affect your job performance?	46.914	16	7024E-4
Does your level of hard skills affect your job performance?	X-squared	df	p-value
What kind of education would be the most appropriate for you?	5.7238	8	0.6781
Internal links from structural equation modelling – Chi-squared test			
What kind of education would be the most suitable for you?	X-squared	df	p-value
What is your level of soft skills?	16.516	8	0.03556
How do you process feedback from subordinates, colleagues?	X-squared	df	p-value
Does your level of soft skills affect your job performance?	21.087	8	0.00692
What is your level of soft skills?	X-squared	df	p-value
Does your level of hard skills affect your job performance?	28.687	16	0.02614
Does your level of soft skills affect your job performance?	X-squared	df	p-value
What kind of education would be the most appropriate for you?	8.2979	8	0.4049
Does your level of hard skills affect your job performance?	X-squared	df	p-value
How do you process feedback from subordinates, colleagues?	12.899	8	0.1154

Source: authors

As can be inferred from the data in Table 2, statistically significant relationships were confirmed between the five parameters tested. The relationship between the level of soft skills acquired and their potential contribution to the employee’s job performance was confirmed (p-value = 3693E-6). A similar significance (p-value = 7024E-4) was analysed between the level of soft skills achieved and the level of hard skills achieved in terms of job performance, between the choice of the most appropriate type of training and its effect on the level of soft skills (p= 0.03556). Statistical significance (p = 0.0069) was identified between the “attitude toward getting feedback from colleagues and subordinates” on the “employee’s job performance”. The significance was also tested between “soft skill level” and “effect of hard skill level” on “employee’s job performance”. As shown in Figure 3, the entire testing procedure and its results can be illustrated using an established diagram called “Structural Equation Modelling”, which consists of external and internal links. The dependency found can be described as significant and inspiring for setting the training policy of managers in construction companies. The basic premises of the findings can be summarised in three areas. The first point is to the necessary linking and simultaneous balancing of both forms of managers’ skills within their educational process, provided by both internal and external resources. The second insight relates to the need to differentiate corporate training in managerial competencies according to management levels. The third area aims to indicate the need to specify the educational cycle of managers according to individual sectors or parts thereof.

5. Discussion

There is a consensus on the irreplaceable importance of managerial competencies for the efficient and sustainable management of construction companies. The crisis caused by the COVID-19 pandemic and subsequent turbulence in energy, material, and price has negatively affected construction companies with great intensity. This further enhances the importance of the issue addressed in the present document, where management skills can be considered as one of the tools to deal with these crises in the European Union. In terms of the verification of the set research question, focused on “Determination of the importance of individual competencies and their frequency of use” during management and decision-making by managers of construction companies, the following conclusions can be drawn. Considerable differentiation was analysed in terms of the importance of individual competences, similarly in terms of their use during the working day. These findings are in line with, for example, the research findings of Kovaci et al. (2021) and Plotnikov and Pirogova (2018), who attribute the fundamental importance of organisational management competencies to managers within the framework of technical competencies. Then, they are classified as supporting competencies in the areas of strategic and analytical thinking, the ability to organise work effectively, and a flexible approach with an emphasis on efficiency and results. Using correlation, we can identify the mutual integrity between the competences, where we found a cluster of competences consisting of managerial, organisational, and social competencies characteristic of “executive management”. Similar clusters can be defined for managers at the tactical and operational levels. Communication, flexibility, operability, and empathy, including teamwork skills, start to predominate. Consistent with the findings in real business practise, the uniqueness of first-line managers has been confirmed. In construction companies, these are, for example, foremen, leaders of construction groups. Today, operational managers have the greatest responsibility to guide their subordinates to achieve corporate objectives.

In terms of testing the validity of the first hypothesis, “Employee’s age influences the amount of acquired practical and managerial competences”, it was rejected. The research showed that there is no statistically significant relationship between the working age of an employee and the acquired managerial competencies. The same and much more interesting finding is offered for the area of practical competences, where we measured a slightly higher level of significance, but this does not establish the premise to confirm the hypothesis.

The second hypothesis targeting “The level of soft skills is conditioned by the level of hard skills in the context of job performance” was confirmed. This is demonstrated by statistical analysis; at the same time, the interdependence between soft and hard skills was confirmed by the new finding that the results indicate an unequal relationship between the two types of skills. In case an employee excels in “hard” skills, a significant proportion of managers are analysed to be in the opposite condition in “soft” skills, and vice versa. This issue will be addressed in the following research activities. Traylor et al. (2021) and Tang (2019), who addressed the interdependence of “hard and soft skills” considering the balance between these attributes as optimal, but not as a prevailing phenomenon in real practise, reached a similar conclusion.

The last hypothesis was directed at testing ‘the existence of a synergy between the level of soft skills of an employee and the type of self-education desired by the employee’. Employee training is not only a matter of the current education system but also a tool for organisations to expand their expertise and get to know their employees. From this perspective, the existence of a link between the quality of ‘soft skills’ and the requirement or types of corporate training received by construction company employees has been demonstrated. We can conclude that the last hypothesis is confirmed. In this case, we can rely on similar findings of other authors, such as Mazurchenko et al. (2020) and Tolstykh et al. (2019). They state that, given the inevitability

of changes in the labour market, employers need to adopt the skills of the future to adapt to the increasing speed of change in the corporate environment, and further state that the development of broader soft skills is beneficial and necessary. Furthermore, the conclusions of the following authors regarding the speed of change support the validation of the hypothesis. In the past, change took place over a period of twenty years, whereas today it occurs on average over a period of two to five years. At the same time, the useful life of professional skills is decreasing. Even software developers must update their knowledge every 12 to 18 months (Erceg and Zoranovic, 2020; Liu et al., 2019).

6. Conclusions

The results of the solution indicate that the issue of managerial and professional skills in the construction sector is current, necessary, and, especially regarding the changes that occur in the sector because of crisis conditions, socially significant. To improve managerial competencies, it is important to first identify areas where improvements can be made and then put these findings into practise. With this goal in mind, the authors approached the problem, where the motivation was to learn about the real situation in the corporate sphere in terms of managerial quality. The existing forms of their corporate training are in many cases of a general nature and are not aimed at the competencies that are crucial in terms of the changes that are taking place in the construction industry (Gudanowska et al., 2020). This aspect has also been the subject of research activities. Although there are defined standards for individual competences, these are partly outdated and do not reflect technical, organisational, managerial, and economic changes in the construction sector. It is a fact that even these are not adhered to in company practise, even though adherence to them is a prerequisite for reviewing company competencies in line with the set standards. The relationship between human capital and economic performance is well known and is generally accepted but not implemented in all companies (Mandal et al., 2020). It is believed that the long-term stagnation and declining productivity of European countries are due to their managerial skills, or lack thereof. An enterprise can positively influence the competences of its employees, if there is systematic, targeted, systematic care of employee training with feedback of its effectiveness which is consistent with the study by Nursaid et al. (2021).

The competencies of corporate managers in construction companies have been analysed from different perspectives in research activities. In terms of their importance, interdependence, frequency of their use, in terms of the relevant management levels, and especially in the breakdown of the so-called "hard and soft competences. Statistical methods were used to determine the significance of the observed links and priorities. A new element in the research on managers' competencies was the clustering of competencies for individual groups of managers. The clustering of competencies allowed for a definition of 'executive management', with the specification of its competencies. A further output of this process was a set of two conceptual competencies related to HR, which create the prerequisites for "first-line managers". The field of training is not only a question of the current educational system but also a means of helping construction companies develop their know-how and a way of getting to know their employees. There is a synergy between the level of soft skills of an employee and the type of self-education the employee desires.

New business models aim to maximise value added in company processes, leading to increased profitability for most businesses (Strakova et al., 2022). These significant changes in business strategy need fundamental adjustments in corporate manager profiles. Creative and imaginative managers, cultivated in new training programmes, carry the new economy's goals,

and sustain businesses. According to Gianchandani (2018), 77% of the global workforce will be 15–25-year-olds in Asia, Africa, and the Pacific. A long-term human resource business strategy influences a company's financial behaviour to gain a competitive advantage. Manager profiling is a new problem for the corporate sector, especially managers, in line with emerging sociological and economic challenges in Europe and the world. The writers know that managerial competencies are too complex to cover in one paper. In their contribution, the authors hope to start a scientific and lay discussion on this problem, which has been unjustifiably outside of business priorities during the economic crisis.

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References

- Abdul-Rashid, S. H., Sakundarini, N., Ghazilla, R. A., & Thurasamy, R. (2017). The impact of sustainable manufacturing practices on sustainability performance: Empirical evidence from Malaysia. *International Journal of Operations & Production Management*, 37(2), 182-204.
- Ada, N., Ilic, D., & Sagnak, M. (2021). A Framework for New Workforce Skills in the Era of Industry 4.0. *International Journal of Mathematical Engineering and Management Sciences*, 6(3), 771-786.
- Akbay, L., Akbay, T., Erol, O., & Kilinc, M. (2019). Inadvertent Use of ANOVA in Educational Research: ANOVA is not A Surrogate for MANOVA. *Journal of Measurement and Evaluation in Education and Psychology*, 10(3), 302-314.
- AlQershi, N. A., Diah, M. L. B. M., Latiffi, A. B. A., & Ahmad, W. N. K. W. (2020). Strategic Innovation and Competitive Advantage of Manufacturing SMEs: The Mediating Role of Human Capital. *Quality Innovation Prosperity-Kvalita Inovacia Prosperita*, 24(3), 70-89.
- Amdani, D., Sinulingga, S., Absah, Y., & Muda, I. (2019). The effect of competencies and organizational culture on employee performance ganesha while polytechnic. *International Journal of Scientific and Technology Research*, 8(4), 155–159
- Androniceanu, A. (2017). The Three-Dimensional Approach of Total Quality Management, an Essential Strategic Option for Business Excellence. *Amfiteatru Economic Journal*, 19(44), 61-78.
- Berrett, T., B. & Samworth, R. J. (2021). USP: an independence test that improves on Pearson's chi-squared and the G-test. *Proceedings of the Royal Society A-Mathematical Physical and Engineering Sciences*, 477.
- Bidmon, C. M., & Knab, S. F. (2018). The three roles of business models in societal transitions: New linkages between business model and transition research. *Journal of Cleaner Production*, 178, 903-916.
- Bonner, R. L., Neely, A. R., Stone, C. B., Lengnick-Hall, C. A., & Lengnick-Hall, M. L. (2022). Triaging your human capital: An integrative perspective on strategic human capital asset allocation. *Management Research Review*, 46(3), 467-482.
- Boon, C., Eckardt, R., Lepak, D. P., & Boselie, P. (2018). Integrating strategic human capital and strategic human resource management. *International Journal of Human Resource Management*, 29(1), 34-67.
- Capestro, M. M., & Kinkel, S. (2020). Industry 4.0. and Knowledge management: A review of empirical studies. *Knowledge Management and Organizational Learning*, 9(1), 19-52.
- Do, T. N., Kumar, V., & Do, M. H. (2020). Prioritize the key parameters of Vietnamese coffee industries for sustainability. *International Journal of Productivity and Performance Management*, 69(6), 1153-1176.

The Impact of Soft Skills Development on the performance and profitability of Construction Companies: A Case Study in the Czech Republic

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- Dobrovic, J., Kmeco, L., Gallo, P., & Gallo Jr., P. (2019). Implications of the Model EFQM as a Strategic Management Tool in Practice: A Case of Slovak Tourism Sector. *Journal of Tourism and Services*, 10(18), 47-62.
- Domanizova, P., Janickova, N., & Milichovsky, F. (2021). Specification of product value as a key part of the Canvas business model in the context of industry 4.0. *Littera Scripta*, 14(1), 1-10.
- Dwiyanti, L., Rusmawati, Y., Wisanggeni, A. & Nugraha, F. (2021). Correlation Analysis on Big Data for Legislative Election. *2021 International Conference on Data and Software Engineering (ICoDSE)*, Bandung, Indonesia, 1-5.
- Erceg, V., & Zoranovic, T. (2020). Knowledge management and digital business transformation. *Strategic Management*, 27(2), 57-63.
- Gavurova, B., Cepel, M., Belas, J., & Dvorsky, J. (2021). Strategic Management in SMEs and Its Significance for Enhancing Competitiveness in the V4 Countries-A Comparative Analysis. *Management and marketing*, 15(4), 557-569.
- Gianchandani, P. (2018). *Why do companies invest in Vocational Training & Apprenticeships?* Valencia: Iated-INT Assoc Technology Education & Development.
- Gudanowska, A. E., Kononiuk, A., & Debkowska, K. (2020). The Application of Cluster Analysis for the Selection of Key Competences of Future-Orientated Entrepreneurs. *Inzinerine ekonomika-engineering economics*, 31(5), 565-574.
- Hannila, H., Kuula, S., Harkonen, J., & Haapasalo, H. (2020). Digitalisation of a company decision-making system: a concept for data-driven and fact-based product portfolio management. *Journal of the decision system*, 31(3), 258-279.
- Hira, R. (2019). Outsourcing STEM Jobs: What STEM Educators Should Know. *Journal of Science Education and Technology*, 28(1), 41-51.
- Katthi, J. R., & Ganapathy, S. (2021). Deep Correlation Analysis for Audio-EEG Decoding. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, 29, 2742-2753.
- Keengwe, J., Kidd, T., & Kyei-Blankson, L. (2009). Faculty and technology: Implications for faculty training and technology leadership. *Journal of Science Education and Technology*, 18(1), 23-28.
- Kim, M. (2022). Application of functional ANOVA and functional MANOVA. *Korean Journal of Applied Statistics*, 35(5), 579-591.
- Koster, M., Vos, B., & Schroede, R. (2017). Management innovation driving sustainable supply management Process studies in exemplar MNEs. *BRQ-Business Research Quarterly*, 20(4), 240-257.
- Kovaci, I., Tahiri, A., Bushi, F., & Zhubi, M. (2021). Organization as a Function of Management and the Types of Organizational Structures that Apply in SMEs in Kosovo. *Quality-Access to Success*, 22(181) 3-6.
- Latifah, L., Setiawan, D., Aryani, Y.A., & Rahmawati, R. (2020). Business strategy–MSMEs' performance relationship: innovation and accounting information system as mediators. *Journal of Small Business and Enterprise Development*, 28(1), 1-21.
- Liu, Y., Chi, M., Zhao, J., & Huang, R. (2019). Digital business strategy as an initiator of e-business capability generation. *Proceedings Of Eighteenth Wuhan International Conference On E-Business*, 420-421.
- Manaf, H. A., Harvey, W. S., Armstrong, S. J., & Lawton, A. (2020). Differences in personality and the sharing of managerial tacit knowledge: an empirical analysis of public sector managers in Malaysia. *Journal of Knowledge Management*, 24(5), 1177-1199.
- Mandal, K., Otolá, I., & Roy, K. (2020). Is Trust Influencing Longer Business Relationship? An Empirical Study, *Proceedings of the 3rd International Conference Contemporary Issues in Theory and Practice of Management*, 189-197.
- Mazurchenko, A., Zelenka, M., & Marikova, K. (2020). Influence of technological changes on digital competences in organisations. *Digitalized economy, society and information management*, 49. 41-48
- Niculae, E., Ionescu, S. C., & Dima, D. (2019). The role of Integrated Management Systems in Strategic Management. *Management Perspectives in The Digital Transformation*, 555-560.
- Nursaid, F. K. S., Martini, N. N. P., Sanosra, A., & Qomariah, N. (2021). The Impact of Competence and Work Environment on Employee Motivation and Performance in The Financial and Asset Management Division. *Quality-Access to Success*, 21(185), 52-63.
- Onufrey, K., & Bergek, A. (2021). Transformation in a mature industry: The role of business and innovation strategies. *Technovation*, 105.
- Pasch, T. (2019). Strategy and innovation: the mediating role of management accountants and management accounting systems' use. *Strategy of Management Control*, 30(2), 213-246.
- Pedersen, E. R. G., Gwozdz, W., & Hvass, K. K. (2018). Exploring the Relationship between Business Model Innovation, Corporate Sustainability, and Organizational Values within the Fashion Industry. *Journal of Business Ethics*, 149, 267–284.

- Pelster, M., & Schaltegger, S. (2021). The dark triad and corporate sustainability: An empirical analysis of personality traits of sustainability managers. *Business Ethics, the Environment & Responsibility*, 31(1), 80-99.
- Peri, G., Shih, K., & Sparber, C. (2015). STEM Workers, H-1B Visas, and Productivity in US Cities. *Journal of Labor Economics*, 33(3), 225-255.
- Plotnikov, V., & Pirogova, O. (2018). Key competencies as an enterprise value management tool. *Innovational Management and Education Excellence through Vision*, 1716-1721.
- Porter, M. E. (1980). *Competitive Strategy*. New York: Free Press.
- Pratolo, S., Sofyani, H., & Anwar, M. (2020). Performance-based budgeting implementation in higher education institutions: Determinants and impact on quality. *Cogent Business & Management*, 7(1).
- Qehaja, A. B., & Kuttlovci, E. (2020). Strategy tools in use: New empirical insights from the strategy-as-practice perspective. *Journal of Contemporary Management Issues*, 25(1), 145-169.
- Siepel, J., Camerani, R., & Masucci, M. (2019). Skills combinations and firm performance. *Small Business Economics*, 56(4), 1425-1447.
- Sousa, M. G., & Nobrega, B. (2018). A aplicacao da gestao por competencias nos processos de gestao de pessoas: um estudo com os servidores tecnico-administrativos no Centro de Ciencias Juridicas e Sociais/UFCG. *REUNIR: Revista de Administracao, Contabilidade e Sustentabilidade*, 8(3).
- Strakova, J., Partlova, P., & Vachal, J. (2017). Vliv faktorů makroprostředí a mezoprostředí na ekonomickou stabilitu a rozvoj malých a středních podniků v ČR. *Logos polytechnikos*, 8(3), 147-159.
- Strakova, J., Rajjani, I., Partlova, P., Vachal, J., & Dobrovic, J. (2020). Use of the Value Chain in the Process of Generating a Sustainable Business Strategy on the Example of Manufacturing and Industrial Enterprises in the Czech Republic. *Sustainability*, 12(4).
- Strakova, J., Talir, M., & Vachal, J. (2022). Opportunities and threats of digital transformation of business models in SMEs. *Economics & Sociology*, 15(3), 159-171.
- Talir, M., & Strakova, J. (2023). Innovation of the production process of engineering companies in relation to business portfolio. *Entrepreneurship and Sustainability Issues*, 10(4), 118-134.
- Tafvelin, S., Schwaz, U. V., & Stenling, A. (2020). Leadership Training to Increase Need Satisfaction at Work: A Quasi-Experimental Mixed Method Study. *Frontiers in psychology*, 11.
- Tang, K. N. (2019). Leadership in Business Organization. *Leadership and Change Management*, 1-19.
- Tolstykh T. O., Shakarupeta E. V., Purgaeva I. A., & Federenko R. V. (2019). Transformation of positions, competences and skills in the digital economy industry. *GCPMED 2018 - international scientific conference global challenges and prospects of the modern economic development*, 57, 953-959.
- Traylor, A. M., Reyes, D. L., & Holladay, C. L. (2021). Do we practice what we preach? the association between Judgements of soft skills and performance evaluations over time. *Current psychology*, 41(10), 7208-7214.
- Wang, C., Brabenec, T., Gao, P., & Tang, Z. Y. (2021). The Business Strategy, Competitive Advantage and Financial Strategy: A Perspective from Corporate Maturity Mismatched Investment. *Journal of Competitiveness*, 13(1), 164-181.
- Xu, M. Y., Zhang, D. N. & Wei, B. W. (2019). Pearson's chi-squared statistics: approximation theory and beyond. *Biometrika*, 106(3), 716-723.
- Yuan, Y., Lu, L. Y., Tian, G., & Yu, Y. (2020). Business Strategy and Corporate Social Responsibility. *Journal of Business Ethics*, 162(2), 359-377.
- Zhou, J. M., Bi, G. B., Liu, H. F., Fang, Y. L., & Hua, Z. S. (2018). Understanding employee competence, operational IS alignment, and organizational agility - An ambidexterity perspective. *Information & Management*, 55(6), 696-708.
- Zimmer, P., Iata, C. M., De Souza, J. A., & Cunha, C. J. C. D. (2017). Determining Factors for Innovation Performance from Industries in Santa Catarina State. *Revista gestao & tecnologia-journal of management and technology*, 17(3), 191-216.