

Selected Aspects of Enhancing the Competitiveness of Small and Medium-sized Construction Enterprises-Strategic Management View

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Abstract – The importance of strategic management of organizations has been growing steadily in recent decades. Its role in competitiveness of businesses in selected industries, such as the construction industry, seems to be even more significant. The aim of the article is to analyze the selected variables of enhancing competitiveness of small and medium-sized enterprises (SMEs) in construction sector in the Slovak Republic and to propose recommendations of a strategic nature that will increase their competitiveness in the long-term perspective. To achieve the goal, the survey was carried out in 2021 on the group of 150 SMEs in the Slovak Republic.

Keywords – small and medium-sized enterprises (SMEs), strategic management, competitiveness, construction sector.

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1. Introduction

The significance of small and medium-sized enterprises (SMEs) is largely in their economic strength in the country's economy. The position of the SMEs in the economy is characterized not only by their annual turnover, but also by their export value. The SMEs are major suppliers of goods and services to large exporting corporations and their indirect exports. In the EU countries, the SMEs make up 99.8% out of a total of more than 20 million businesses. The SMEs account for 67.4% of total employment. In particular, in the Slovak Republic, the SMEs make up 99.9% of the total number of business entities and account for 69.8% of the total employment. The SMEs play both an important role in the process of implementing innovations in the market and have an impact on maintaining workplaces [1].

The strengths of the SMEs include a flexible response to changing market requirements and business conditions, their close relations with customers, greater specialization, labor intensity, better adaptation to regional conditions, where they have comparative advantages such as cheap skilled labor, knowledge of infrastructure, etc. Immediate, informal contacts between employees and management, a clear organizational structure, direct management and control also play an important role. The weaknesses of the SMEs include limited financial resources (lack of equity for investment, poorer availability of foreign resources) and thus a restriction for further development. We also often encounter a lack of knowledge (know-how) in the field of business management, lack of market information, weak marketing, insufficient strategic

management, limited resources for research, or high costs of production differentiation [2], [3].

Compared to larger firms, the unique characteristics of the SME indicate that these types of firms, also in construction sector, operate as if in two separate worlds. The differences between SMEs and large companies make it unrealistic to use a single method to analyze their successes in the construction industry [4].

The construction sector accounts for a significant part of the gross domestic product of each country, hence its development is a direct determinant of economic development in the long-term perspective [5]. The construction industry is a rapidly growing sector that significantly contributes to improving the quality of life of citizens by providing the necessary socio-economic infrastructure [6]. Many statistical surveys clearly show that the implementation of construction projects consumes a significant part of national budgets. Therefore, the development of the construction sector is important not only for the enterprises operating in it, but also for the policy of the governments [7].

It is pointed that the construction industry can be treated as a highly comparable industry in many countries, both developed and developing. Entrepreneurs should take into account a variety of factors of competitiveness and success, indicated in the literature, in order to attract and retain customers, implement projects effectively and on time, and ultimately ensure their development [8]. As previously mentioned, the SMEs are the backbone of any economy and, in addition, are an important link in the development of the construction industry, hence it is important to analyze the success factors and competitiveness of construction SMEs in order to develop their role in the industry [9]. Meanwhile, success in small construction businesses faces many specific challenges or barriers that differ from those in large organizations. Competitiveness of construction SMEs is lowered by such factors as: limited financial, material, and especially human resources, problems with the timeliness of project implementation or difficulties with the know-how of experts in the field of project implementation and compliance [10]. Another commonly recognized problem is the lack of a strategic approach to management and reliance on a short-term vision, which is a typical feature of the entire SME sector [11].

This paper is structured as follows: in section 2 the literature review on the subject is provided; section 3 describes the methodological approach; section 4 presents the results of quantitative research. In section 5, the discussion is presented, and then conclusion and implications in section 6; and limitations and future research in section 7.

2. Literature Review

2.1. *Strategic Management in Competitiveness Enhancing of Construction SMEs*

The current aggressive competitive business environment responds to the need to compete in a world that is overwhelmed by radical social change, economic instability, global political conflicts and widespread digitization. Seizing opportunities and reducing risk is one of the key determinants of success and survival in a business, but the results of such actions are always uncertain [4], [12]. Currently, it is of particular importance as the number of threats, especially those resulting from the external environment, is much greater than before. Each enterprise in the course of its activities has to face certain threats that may lead to a reduction in the firm's market value [13]. It is necessary to prevent these threats or minimize their impact, which underlines the role of risk management at all levels of management, including all processes and stakeholder relations. Risk management includes a cycle consisting of risk analysis, risk response and risk control, and in the construction industry it is essentially the same as in other organizations [14]. Meanwhile, SME managers monitor risk inconsistently, randomly, intuitively and informally. Another trap is risk monitoring using only narrowly defined criteria and in the absence of diagnosed risk factors, which may lead to ineffective management decisions [15]. By using a fragmentary approach to risk management only, rather than a consistent strategic approach, it is quickly apparent that competitive advantage of the firm is greatly suffering.

The construction industry is widely known as one of the riskiest industries in the world due to its complexity, importance and time consumption [16]. Construction projects are often doomed to fail due to unforeseen risks [17]. The consequences of construction products and activities also carry enormous environmental, social and economic burdens [18].

According to construction industry, competitiveness is the ability of a construction firm operating in free market conditions to successfully achieve its goals and increase the value of the construction entity. The firm's ability to compete is a feature that is regularly verified by the market. A construction enterprise wishing to be successful in free-market competition in the sector must be every day competitive. It should implement new technologies, boldly reach for innovative solutions and stay ahead of the upcoming market trends [19]. A radical change in the business model or organizational structure of the enterprise is often

necessary, where the change is an opportunity for development, not a threat to business. It should be remembered that customers also want to develop their expectations - expect an interesting offer and something more than in previous projects.

The desire to survive in this competitive environment makes these organizations engage in strategic management and planning to increase their ability to adapt to changes in a rapidly changing environment and their ability to meet and satisfy customer expectations [20]. Competitive advantage is the basis for building any business strategy, enlarging the distance separating the enterprise from competitors in terms of the selected key success factor. In construction business, competitive advantage should be understood as the ability of a construction firm to differentiate and distinguish its products and services from its competitors. The advantage of such a strategy is, of course, the uniqueness of the offer, which makes it very difficult to copy this competitive advantage of a construction enterprise by direct competitors.

Strategic management was first popularized 50 to 60 years ago as a way to discover critical success factors in organizations' internal and external environments [21]. Strategic management refers to the major emerging initiatives taken by top managers on behalf of owners to make the best use of resources to improve the performance of enterprises in their external environment [22].

A deepened understanding by managers of contemporary economic patterns is considered a key pillar of strategic management, especially with regard to competitors, financial conditions, governments or customers [23]. The ability to recognize market requirements contributes to the accurate identification of success factors in a constantly changing world, and this ability can ensure organizational success [24], financial stability and helps in risk management. The strategy of an enterprise must be updated on a regular basis to take into account the following changes in the internal elements of the business operating or firm's environment. For this reason, strategic management consists of analyzes, decisions and actions taken by organizations to create or maintain a competitive advantage. It is assumed that the strategies are not static but responsive, as they take into account feedback, which means that progress is monitored and subsequent planning is adapted to it. For this reason, it is crucial to know exactly what is happening in both the internal and external environment and how strongly certain factors influence each other at any given time [25].

The basis for strategic management is the understanding by managers not only of the competitiveness of their businesses, but also of

markets, prices, suppliers of raw materials, distributors, government, creditors, shareholders and customers in a global environment where the dynamics of change is successively growing. Strategic thinking enables organizations to face and adapt their management process to future conditions. Strategic plans describe the process of moving from the existing situation to the desired situation, it determines the orientation for the future of the organization and stability [26].

2.2. The Role of Management Quality in construction sector

In the construction industry, the quality of management is as crucial, or even more important than in other industries. The implementation of effective models and methods of operation will not prove to be effective if it is not combined with an appropriate level of attention and supervision by managers and strategic planners. Managers are, therefore, required to identify critical success factors that define the firm's short-term strategies and, in the long perspective, are a source of future business strategy and focus on achieving critical competencies [27]. The specificity of the construction sector suggests that the factors originating from the external and internal environment of construction enterprises should be assessed at the very initial stage of building a strategy, and the proper use of this information by managers will allow to eliminate development barriers [28], and ensure stability.

The research conducted confirms that the effective management of construction SMEs positively correlates with its success [29]. The main motivation for these entities is survival, and in a broader perspective, stability and development. In practice, construction firms focus on the implementation of projects, playing down the corporate development [30]. Particular attention is paid to the importance of resource management planning as essential in the construction industry. Entrepreneurs should develop the relational capital of their enterprises in order to obtain resources necessary for business operation. It is primarily about positive and constructive cooperation with relevant organizations and institutions, such as insurance companies, banks, tax authorities or those related to construction supervision.

Managing construction SMEs also requires actively responding to technological advances in the industry, considered especially through the prism of design and material innovations, without which it is difficult to compete, grow [31] and ensure success in the construction industry. Construction enterprises must constantly respond to technological changes in order to be able to create alternative ways of maintaining a competitive advantage [32].

The development of human resources is indicated as a critical tool for the development of SMEs in the

construction industry. The disadvantages for these enterprises arise from incompetence in applying modern and appropriate human resources practices, which in this industry belong to the group of low-skilled, which makes it difficult to manage them effectively [7].

The development of the leadership potential of a construction firm in modern conditions is influenced not so much by the internal management system, but by the external environment [33]. Contemporary scientific literature indicates the main determinants of shaping the leadership potential and management efficiency of a construction enterprise, such as: acceleration of material, financial, information and logistics flows [34]; notorious changes in contract terms [35]; pressure from the external institutional environment [36]; the importance of managerial activities in the face of non-standard phenomena and processes emerging in the construction sector [37]; the impact of the COVID-19 pandemic on changing trends in architecture and design, and thus on the entire construction industry [38]. Although the quality of management is indicated as important for the stability of the firm's operations, it is difficult to point to a direct correlation between these values for the construction industry, in particular.

3. Methods

The aim of the article is to analyze the selected variables of enhancing competitiveness of SMEs in construction sector in the Slovak Republic and to propose recommendations of a strategic nature that will increase their competitiveness in the long-term perspective.

To fulfill the main goal of the article, two hypotheses were formulated:

H1: Management in a company is not a statistically significant determinant that would have a positive impact on the creation of a financial strategy for construction SMEs in the Slovak Republic.

H2: The position of a company in a sector is not a statistically significant determinant that would have a positive impact on the creation of a financial strategy for construction SMEs in the Slovak Republic.

The respondent was defined as a small and medium-sized enterprise (SME; less than 250 employees), which operates in construction sector in the Slovak Republic. The research sample structure, according to the firm's size, shows that the group consists of 28.7% micro-enterprises, 40.7% small businesses, and 30.6% medium-sized enterprises. When considering the maturity of the surveyed companies, it should be noted that 38.7% operate in the market up to 10 years, and 61.3% - over 10 years.

The questionnaire was designed and realized in the period February-May 2021. Finally, 150 satisfactorily completed questionnaires were obtained. The research sample was collected randomly. Respondents could present their opinion in 5-level Likert scale.

Authors pointed dependent variable, formulated as:

S1: The intensity of financial risk is low and its negative consequences are not dangerous for the company from the point of view of building a financial strategy.

Two independent variables were indicated to further analysis:

S2: I see the business sector in which I operate as promising for the future of my firm.

S3: I manage my firm (e.g. finances, marketing, personal and business relations) in such a way that it is an important element of the firm's stability.

The statistical methods of linear regression modeling (LRM). The LRM is a suitable tool for the research due to the fact that all investigated variables are evaluated identically. Respondents' positive attitudes towards independent variables (S2 and S3) should also influence the dependent variable (S1) in a linear direction.

In the first step, the descriptive characteristics of the variables (S1, S2, and S3), such as mean, standard deviation, skewness, sharpness, were calculated. Subsequently, by means of correlation analysis, the magnitudes of the dependence between the variables were determined by means of par correlation coefficients. Their statistical significance was verified by Student's t-test. The statistical significance of the regression coefficients was also verified by the t-Student's t-test. The significance level (α) was determined at 5% (it means $\alpha = 0.05$). The statistical significance of the LRM was verified using regression characteristics: multiple correlation coefficient (MCC), coefficient of determination (R^2), adjusted coefficient of determination (Adj. R^2), Analysis of variance (ANOVA: SS - Sum of squares; MS - Mean of squares; SE - Standard error; df. - Degree of freedom; t-test) and verification of LRMs (F-test). The negative dependence between the independent variables (S2 and S3) was not verified due to their low number ($3 \geq T_s$ - statements). Autocorrelation was not subject to analysis, due to the fact that it was not data in chronological order. The Shapiro-Wilk test (S-W test) was applied to verify the normal distribution of random errors. The homogeneity of variances of the selected variables was verified by the Levene's test. The above assumptions are accepted when the p-value of the S-W test and the p-value of the Levene's test are greater than α . Statistical analysis was performed in SPSS Statistics.

4. Results

The basic descriptive characteristics of selected statements are the subject of Tab. 1.

Table 1. Results of descriptive statistics of selected variables

Statements	Mean	SD	Skewness	Kurtosis
S1	3.573	1.421	-0.842	-0.663
S2	3.427	1.276	-1.075	-0.295
S3	4.180	0.935	-0.351	-0.768

The results presented in Table 1. showed that the selected variables (S1, S2, and S3) meet the assumption of a multiple model of normal distribution, because the values of descriptive characteristics (skewness and kurtosis) are in the range of values from -2 to 2. Based on the results of the questionnaire using the Likert scale method, we can see that a value of 3.573 indicates the result that respondents tend to disagree with the statement, so construction SMEs in Slovakia feel a threat in terms of stability and risks in the perspective of financial strategy building, and that have a negative effect on their competitiveness, as companies in management approach more defensive market tactics. The value of 3.427 also points to a rather disagreement with S2's claim, which means that companies have a rather pessimistic view of the future of the sector, which may stem mainly from the uncertain situation in the building materials markets and the constant rise in their prices. Another reason may be the lack of skilled labor in the labor market. The highest value from the questionnaire 4.180, which also represents a rather disagreement with the statement S3, which means that the given respondent does not consider himself an important element in achieving stability. This may represent some helplessness in connection with the great influence of the external environment such as the materials market, the labor market, etc. Presentation of results pair dependences between variables (S1, S2, and S3) are the subject of Table 2.

Table 2. Results of correlation analysis between variables (* $\alpha < 0.05$)

	S1	S2	S3
S1	1.000		
S2	0.540*	1.000	
S3	0.183*	0.339*	1.000

The results of the correlation analysis showed the statistical significance of the dependencies between selected competitiveness factors (independent variables: S2 and S3) and the creation of the financial strategy of construction SMEs in the Slovak Republic (dependent variable: S1). The results of the regression analysis are the subject of Table 3.

Table 3. The influence of competitiveness factors on the financial strategy of construction SMEs in the Slovak Republic ($\alpha = 5\%$)

MCC	0.315	Adj.R ²	0.095	
R ²	0.099	SE	1.422	
ANOVA	df.	SS	MS	F- ratio
Regression	2	3.570	1.788	0.884
Residual	147	297.12	2.021	p-value
Total	149	300.69		0.415*
IVs	β_i	SE	t-Stat	p-value
Intercept	3.455	0.615	5.619	9.320E-08
S2	-0.095	0.091	-1.036	0.302
S3	0.106	0.125	0.848	0.398

The LRM did not show a statistically significant influence of competitiveness factors (see Table 3.; F - ratio = 0.884; p-value = 0.415) on the creation of the financial strategy of construction SMEs (S1). None of the competition factors is statistically significant (S2 p-value = 0.302; S3 p-value = 0.398). The form of the linear regression function has the form: $S1 = 3.455 - 0.095 \times S2 + 0.106 \times S3 + \epsilon_n$; (2) where: S1 - financial strategy of construction SMEs; S2 and S3 - selected claims of competitiveness; ϵ_n - random error.

Due to the fact that the LRM is statistically insignificant, it is not necessary to verify the normal distribution of random errors and the homogeneity of variances. The application of stepwise regression analysis also did not show statistical significance of any of the factors of competitiveness. Based on the above results, H1 and H2 are accepted.

5. Discussion

Recognizing the importance of the construction sector for economic growth, it is necessary to identify major issues affecting the effectiveness of this sector [39], [40]. The changing business environment forces the managing managers of construction enterprises to search for new sources of competitive advantage. In order to effectively manage and make effective managerial decisions, modern knowledge of the factors influencing the competitiveness of construction firms is necessary. Obtaining a competitive advantage is crucial for companies to achieve strategic goals, as this advantage serves as the main determinants of the divergence between successful and unsuccessful organizations [41]. Thus, continuous analysis of customers' decision-making processes and the changing external environment is particularly important.

The external and internal environment of construction companies is very dynamic, forcing contractors to use strategic decisions in running their

business. Construction SMEs, however, have a problem with implementing the strategic departure, compared to other industries. This causes clear turbulence at times of economic crises of various origins [42]. The lack of long-term management and an inconsistent approach to risk management cause instability in construction companies and affect their performance.

6. Conclusion and Implications

Common opinion indicates that the effectiveness of each enterprise depends on the quality of management, but also on the economic situation in the sector. It seems that stability and development opportunities are a direct result of effective management in response to the changing environment of the enterprise. However, in the conditions of high instability of the environment, which we are dealing with in the era of the Covid-19 pandemic, which brought previously unknown challenges for enterprise management, especially for strategic management implemented in the long-term perspective, the correlation between business management and the economic situation in the industry, and strategic stability may be difficult to confirm.

As practical research implications, the study provides construction stakeholders with determinants to focus on in order to lower the risk of activities relating to the management of the SMEs themselves as well as the prospects of the construction industry. The survey can help construction entrepreneurs formulate the necessary business models and policies to accelerate and increase a firm's competitive advantage in the construction industry. As a theoretical implication, this study contributes to a theory in the area of specificity of managing SMEs in the construction industry, with quantitative evidence.

7. Limitations and Future Research

The realized research is not free from limitations. Both the results and limitations of this research set the directions for future research.

The presented studies were limited in terms of the size of the research sample. Therefore, they cannot be considered representative. Hence, future research could extend the research in the construction sector and possibly compare the results with similar research done in other countries.

Another research limitation was the general approach to independent variables, which resulted in their influence not being confirmed. However, the widespread indication in the literature that the studied areas are crucial for the development and stability of enterprises, including construction companies, means that future research should focus on the refining/disaggregating independent variables.

Finally, a specific research limitation is the specific (pandemic) period of the research. Construction companies are currently experiencing an enormous increase in the price of building materials, partly due to their shortage. The lack of qualified staff in the area also forces the company's management to make corrections or sudden changes in management decisions. In particular, such unpredictable aspects of the construction market point to the need for a new survey in the analyzed area, which will certainly cause changes in the presented results of last year's research. Unprecedented market turbulences mean that one-off studies may be burdened with numerous imperfections, hence it is necessary to repeat and compare studies, which may constitute a research challenge for the future.

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