

Summary

Industrial cooperation of small and medium-sized construction enterprises of the Silesian region in the context of their performance

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Inter-organizational cooperation is the subject of numerous studies. It is frequently considered by researchers as a source of growth performance of enterprises^{1,2}. At the same time, the authors of publications emphasize the fact that the industrial cooperation in various sectors does not proceed in the same way^{3,4}.

The specific nature of the surveyed enterprises can prevent the direct transfer of the test results and recommendations prepared for other sectors, industries. The particularity of the operation of small and medium-sized enterprises (SMEs) – e.g. due to their limited access to resources – let alone those unique to construction companies – tenders, implementation of projects – requires cooperation.

The SME sector, as well as construction industry, play an important role in shaping the economy of the region and country, influencing, among other things, Gross Domestic Product (GDP) and employment. The expansion of business in order to enter international markets increases its importance in modern economy^{5,6}. Germany is the main partner of Polish construction enterprises in international trade⁷.

The **main purpose** of this research is to examine the relationship between industrial cooperation of small and medium-sized construction enterprises and their performance. The following are the **research objectives**:

¹ Crişan-Mitra C., Borza A.: Strategic entrepreneurship, „Managerial Challenges of the Contemporary Society” 2014, Vol. 7(1), p. 170-174.

² Maldonado-Guzmán G., González-Campo C.H., Galvez-Albarracín E.J.: Co-operation as a marketing strategy in Mexico's SMEs: An empirical evidence, „Revista de Globalización, Competitividad & Gobernabilidad” 2012, Vol. 6(2), p. 16-28.

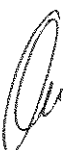
³ Golonka M.: Strategie kooperacji. Jak to robią globalni liderzy ICT, „Przegląd Organizacji” 2012, nr 10, s. 37-40.

⁴ Jasiński M.: Czy kooperacja sprzyja innowacyjności, „Przegląd Organizacji” 2012, nr 12, s. 24-27.

⁵ Daszkiewicz N.: Konkurencyjność małych i średnich przedsiębiorstw w procesie internacjonalizacji, [w:] Konkurencyjność. Poziom makro, mezo i mikro, Daszkiewicz N. (red.), Wydawnictwo Naukowe PWN, Warszawa 2008, s. 119.

⁶ Głód W.: Strategie umiędzynarodowienia MŚP i ich uwarunkowania – wyniki badań, [w:] Strategie rozwoju organizacji, Stabryła A., Małkus T. (red.), Mfiles.pl, Kraków 2012, s. 125.

⁷ Budownictwo – wyniki działalności w 2013 r., GUS, Warszawa 2014, s. 63.



- a) to verify the research tool which postulates a complex study of the relationship between industrial cooperation (including cooperation with domestic and foreign companies) and the performance of construction SMEs operating in Poland;
- b) to identify dimensions of industrial cooperation of construction SMEs;
- c) to examine the significance of the effect of control variables on the relationship between industrial cooperation and the performance of construction SMEs;
- d) to compare selected aspects of industrial cooperation based on the results of empirical research conducted with Polish and German enterprises.

Practical purposes of research:

- a) to develop a research tool to examine the relationship between industrial cooperation of construction SMEs and their performance;
- b) to prepare recommendations concerning industrial cooperation for owners and managers for the purpose of improving the performance of construction SMEs with special emphasis on cooperation with German partners.

Analysis of the reviewed literature provided the construction of the research model and formulation of the following hypotheses:

Hypothesis 1: Industrial cooperation of small and medium-sized construction enterprises is a multidimensional phenomenon.

The dimensions are: functional complexity, degree of formalization, ability to cooperate, compatibility of partners, mutual influence, commitment and trust, desirable attributes of a partner, level of motivation, intensity of competition, barriers of cooperation.

Hypothesis 2: Industrial cooperation of small and medium-sized construction enterprises has a positive effect on their performance.

Hypothesis 3: The magnitude of influence of industrial cooperation of construction SMEs on their performance depends on the following control variables: internationalization and number of employees.

The subjects of the research study are small and medium-sized construction enterprises headquartered in Silesia. A questionnaire was used to survey the enterprises. 365 questionnaires were distributed, from the 98 collected questionnaires 96 were eligible for further research. In addition, 748 questionnaires were handed out to German construction enterprises. Of the 52 surveys returned 29 were qualified for evaluation.

Data analysis focused on quantitative methods. Factor analysis was used as the method to determine the empirical dimensions of industrial cooperation. To establish the relations between the dimensions the Pearson's correlation coefficient was used. To study the

relationship between industrial cooperation and performance of small and medium-sized construction enterprises in the Silesian region correlation and regression analysis was implemented.

On the basis of the empirical studies eight dimensions of industrial cooperation of construction SMEs in the Silesian region were identified:

W1 – maturity to cooperate

W2 – functional complexity

W3 – motivation to cooperate

W4 – barriers of cooperation

W5 – desirable attributes of a partner

W6 – interfirm competition

W7 – formalization of cooperation

W8 – openness to cooperation

The analyses partly supported H1. The number of dimensions of cooperation (identified on the basis of the literature review) was reduced and supplemented with the following dimensions: maturity to cooperate and openness to cooperation.

Three indicators were used to evaluate the performance: number of employees, sales income and net profitability. The results of the correlation and multiple regression analysis (for all surveyed enterprises) partly supported H2 hypothesis. They showed only statistically significant negative relation between the barriers of cooperation (W4) and net profitability.

The results of the data analyses prove that the strength of the impact of industrial cooperation of small and medium-sized construction enterprises on their performance is dependent on the following control variables: internationalization, number of employees (H3). Performance of medium-sized enterprises is more strongly influenced by industrial cooperation than performance of small-sized enterprises. Industrial cooperation of enterprises entering into international cooperation has a greater effect on their performance than industrial cooperation of enterprises which do not undertake international activity.

During the research no statistical significance of relationship between industrial cooperation and income of construction SMEs of Silesia region was observed.

The thesis consists of an introduction, four chapters, conclusions, lists (literature, drawings, and tables) and appendices. The first and second chapters provide the theoretical background, the third chapter is devoted to the discussion of methodology, the last one presents the results of the empirical research.

The first chapter consists of a discussion of small and medium-sized construction enterprises in Poland; the structure and distinct characteristics of the SME sector together with that of the construction industry itself, their economic prosperity - and importance in the economy. The second chapter reviews the literature on interorganizational cooperation, its determinants and relation between cooperation and performance of the SME sector and construction industry. Attention was paid to the legal conditions of cooperation. The third chapter discusses the methodology of the empirical research, research model, research procedure and finally the research tool. Information concerning pilot and proper studies, the structure of the sample taken and the comparison of the sample structure to the structure of the population was introduced. The results of the comparison of selected aspects of industrial cooperation (barriers, motivation, desirable attributes of a partner and expected support in the development of international relations of cooperation) were examined in consonance with the results of the obtained empirical research conducted in Poland and Germany.

The end of the thesis includes theoretical conclusions, recommendations for managers and owners of construction SMEs, limitations and guidelines for further research. The recommendations are presented in two areas: in reference to industrial cooperation with domestic and foreign enterprises and in reference to German partners.

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