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OPERATING AND STRATEGIC CONTROLLING IN POLISH AND GERMAN CONSTRUCTION COMPANIES – A COMPARISON

Abstract. The construction sector is one of the most important sectors in the economy. The paper is a result of a research project conducted in 2000–2001. The main objective of this paper is to depict the organization and functioning of controlling systems in two leading construction companies from Germany and Poland at the beginning of a difficult period of stagnation, to identify main problem-generating areas and to outline the planned changes, which are supposed to influence positively the effectiveness of the presented companies. The controlling systems are depicted at three levels: corporate, division and project level. At the time when the research was conducted the controlling systems in both companies had features characteristic of operating controlling. However, the slump in the construction sector and increasing competition resulted in both companies in the introduction of the elements of strategic controlling. The research shows that the process of unification of controlling systems in Polish and German construction companies is progressing.

1. Introduction

The construction sector is one of the most important sectors in the economy. In spite of an increasing interest of investors in new industries like IT, pharmaceuticals and biotechnology, the construction sector still generates a huge part of GDP in many countries (for example 7,4% of GDP in Poland in 1998, 5,5% of GDP in Germany in 1999) and employs many people.

Because of the structure of the demand in the construction market the construction sector is strongly influenced by fluctuations of economic conditions. Both in Poland and in Germany the construction sectors have been going through a period of crisis since 2000. The crisis began after the boom in the construction market, which was the result of the quick

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development of other industries in the late 90s. As a result of its susceptibility to economic fluctuations, the decrease in the demand in the construction sector in Poland and Germany was significantly stronger than in other sectors. For example, in Poland the decrease was 23% in 2001 compared to 1997, and in Germany the decrease was 8% in 2001 compared to 1999 (see www.stat.gov.pl, www.destatis.de, www.bossa.pl). Additionally, the situation of the construction sector is more difficult due to long terms of payments and delayed payments. Problems with liquidity of construction companies often result in bankruptcy of construction companies, especially the smaller ones. However, at the time of crisis not only small companies are in danger of bankruptcy. For example, one of the biggest German construction groups, Holzmann, employing more than 70 000 and receiving significant subsidies from the government went bankrupt during the crisis. Another danger characteristic of the period of crisis is acquisition made by another company, as was the case with one of the biggest Polish construction companies, Exbud, taken over by the Scandinavian group Skanska.

The consequences of the decreasing demand are the escalated competition and the decrease in the rate of margin realized on contracts. In more favourable periods construction companies in Poland used to generate margins reaching 30% and at the moment the margin does not exceed 8%. The economic slump coupled with strong competition create a need to reorganize many areas of the company. The period of crisis forces actions intended to cut costs, increase co-ordination of processes in the company and eliminate internal disruptions. Such actions are the main tasks of controlling (Simons 2000, p. 3–15; Horvath 1998, p. 109–124).

2. Specific features of the construction sector as a factor influencing controlling systems

Controlling is a cross-functional coordinating system, which should facilitate company management by providing information necessary for making optimal decisions (Anthony, Govindarajan 2000, p. 71–75). A controlling system should be tailored to suit specific features of the firm.

The construction sector is considered to be one of more traditional sectors of the economy. The distinctive features of the construction sector are high market fragmentation and execution of long-term, multi-million projects. It results in a relatively high risk caused by potential changes in the business environment. One risk factor is the change of material and services prices that could occur during the realization of a project. The financial situation of the contractor also could create a risk. In case of

bankruptcy or solvency problems of the client, a construction firm could lose its receivables or the project could be suspended, which would negatively influence the cash flow of the enterprise. In the course of executing foreign contracts another risk that could arise is currency risk.

Construction companies commonly use the project or matrix organizational structure. The project organizational structure is characterized by division not according to functions but according to executed projects. Every project is supervised by a project manager, who usually has considerable decision freedom, and is fully responsible for the successful completion of a project. Successful completion of a project means finishing it according to the specification and other contract conditions, on time and within the budget. The matrix structure is often a combination of the project and functional structure. In a matrix-type organization an employee is simultaneously subordinated to project manager and functional manager (Kerzner 2001, p. 113–142).

3. Objectives of the paper and research methods

The main objectives of this paper are to depict the organization and functioning of controlling systems¹ in two leading construction companies from Germany and Poland at the beginning of a difficult for them period of stagnation, to identify main problem-generating areas and to discuss the planned changes, which are supposed to influence positively the effectiveness of the presented companies.

The main research areas in both enterprises are the following:

– procedures of data collecting, analysing and reporting used in controlling,

– tools and techniques used in controlling,

– organisation of controlling departments.

The research project was conducted in both companies during 2000–2001 and was carried out using the following research methods:

– standardized interviews with employees of both companies,

– critical analysis of documents and procedures,

– observation of daily routine of controllers.

Statistical methods were not employed due to the small sample size – the research project was carried out in 2 companies, in which interviews were conducted with about 40 persons at different management levels, employed in different departments. The research was conducted in a Polish

¹ Also called management control systems.

company by a research team of the Department of Accounting, from the University of Łódź. The team consisted of Prof. Irena Sobanska, Dr Tomasz Wnuk and two PhD students – Jan Michalak and Radoslaw Gajewski. The research in a German company was conducted by Jan Michalak under the supervision of Prof. Irena Sobanska.

In social sciences, including accounting, the use of case studies and descriptions of procedures are common methods of expanding the knowledge of academics and practitioners (Scapens, Ryan, Theobald 1992, p. 112–130). Only a part of the research results is presented in this contribution because of the imposed size of the paper. Due to business secrecy reasons the names of the companies were changed. The Polish company was given a fictional name – Polbud and the German company – Deutschbau.

3. Similarities and differences between the companies

The construction market is highly fragmented in Poland as well as in Germany. Although both enterprises have high levels of employment (about 9000 people in Deutschbau and about 1500 people in Polbud) as well as high sales (about 1800 million EUR – Deutschbau and about 150 million EUR – Polbud), their market share stays at a low level of about 1–2% of whole market. Despite a low market share both firms are considered to be among the biggest and most renowned in their countries. Hence their contract acquisition strategies are similar and focus on activity in all segments of the construction market – from industrial constructions, roads, artificial lakes and dams to housing. Such a strong diversification is forced by the current market situation. Strong diversification helps to maintain a stable and relatively high level of acquired contracts resulting in stable cash flows. In all segments both companies specialize in general contracting executing the biggest and most challenging construction contracts. Large construction contracts enable the companies to obtain high contribution margins that cover high overheads resulting from the complex structure of the head office and local units. Acquisition and realization of big contracts help to gain renown on the market. Consequently, high renown helps to acquire new contracts. Both firms use services of subcontractors, either when there are no necessary skills in the company or when subcontractors offer lower prices than internal entities.

Both Polbud and Deutschbau represent the group-type structure. Deutschbau comprises 30 companies and Polbud comprises 6 companies. Both

groups have local divisions that are more important for the management process than legally separated companies.

Creating local divisions is favourable for construction companies because it enables them to build relationships with local authorities and inhabitants of the region. Nearness to the building site also helps to decrease the cost of construction services. High transport cost of heavy construction machines and people in case of great distances to the building site could make the project unprofitable.

Both groups focus on markets of home countries, but they also try to acquire and realize contracts abroad. They used to be more active on foreign markets in the past. However, the number of foreign contract decreased due to stronger competition, protectionist policy of governments towards the construction market as well as domination of the international construction market by a few biggest competitors.

Both companies are highly centralized especially in the financial area. High centralization results from the high risk connected with projects. A few unsuccessful large projects can cause a bankruptcy of a firm. Strategy is developed by the top management and medium and lower levels of management do not have much knowledge about the mission and strategy of the company. Last years were quite difficult for both companies and they had poor financial results, which is characteristic of construction firms in both countries.

There also are some significant differences between Deutschbau and Polbud resulting from differences between Polish and German construction markets. The construction market in Germany is bigger and more stable than in Poland. Hence also Deutschbau is bigger than Polbud in terms of the number of employees and value of executed projects. As a result, Deutschbau is able to benefit more from the economies of scale. As the German capital market also is more developed than Polish, it is easier for Deutschbau to secure funds for its operations. High credit rates and a not very well developed system of mortgage credits are considered to be the main factors hindering the development of the construction industry in Poland.

Deutschbau has a product-based divisional structure. Divisions were created according to the type of products or services provided by the division: roads and underground constructions, housing and industrial constructions, production of construction materials.

Both groups also have different structures of capital owners. The main shareholder in Deutschbau is a foreign construction group, while Polbud has many individual and institutional shareholders. Deutschbau pursues a more active acquisitions policy resulting in a changing structure of the group.

5. Comparison of the organization and functioning of controlling systems

Due to a multi-level organisational structure of presented enterprises resulting in different information needs of managers of various levels the structure and organisation of controlling is multi-level, too.

5.1. Corporate controlling

The highest level of controlling is corporate controlling, which supplies information directly for top management of both groups. It cannot be equalled to strategic controlling, as in both presented companies it has features characteristic of operational controlling and uses tools peculiar to operational controlling.

Corporate controlling collects the most aggregated data that after thorough analysis enable the board of directors to make proper decisions. Controlling departments in head offices are responsible for collecting data used by top management. Controlling departments are relatively small in both groups and employ only several people. At the corporate level most of the prepared analyses are based on financial data.

Main measures analysed in Deutschbau are the following:

1. Value of newly acquired contract.
2. Revenues from executed projects.

Both measures mentioned above are calculated for one-month periods and cumulatively, separately for divisions, departments and more significant projects. These measures are also calculated for groups as a whole and compared with measures calculated for the whole sector. The measures for the sector are prepared by professional associations active in the construction sector in Germany.

3. Free cash flow (informing about a company's liquidity).
4. Value of payables and extended guarantees (informing about a company's debt and level of financial risk).
5. The ways of investing available cash (financial investments, acquisitions of other companies, investments in tangibles and intangibles).
6. Comparison of the financial result and main factors influencing this result with the planned financial result and financial results of the company from past periods.
7. Number of employees in particular qualification groups as well as the number of employees and labour costs in all product divisions, local divisions and departments.

Main measures analysed in Polbud are the following:

1. Analysis of revenues and the value of newly acquired contracts.
2. Cost analysis by types and entities on a monthly basis and cumulatively.
3. Employment and labour cost analysis.
4. Analysis of the financial statements of competitors quoted on Warsaw Stock Exchange, which can be treated as a substitute for a comparison with German construction companies (on the basis of data provided by German construction sector associations).
5. Detailed vertical and horizontal analysis of the balance sheet and profit and loss account.
6. Production per employee.

5.2. Budgeting

Both companies use incremental, top down budgeting (Drury 1996, p. 467-474). In Polbud as well as in Deutchbau both operational and financial budgets are prepared. A number of differences have been identified in the budgeting systems of the companies presented. There are more budgets and they are more detailed in the German enterprise. Quarterly continuous (rolling) budgets are used in the German enterprise and traditional annual budgets are used in the Polish enterprise. The German company's budgeting procedure is more formalized and complex than the one employed in the Polish enterprise, but it is better described in various handbooks. In Polbud budgets are prepared only for the whole company; cost estimations prepared for every project are not included directly into the budgeting system.

5.3. Performance measurement and the motivational system

The methods of connecting performance with motivational systems are different in both companies. In Deutchbau the main part of the bonus is paid after the end of a project, and in Polbud during the execution of the project. Both methods have advantages and disadvantages. The method employed in Deutchbau helps to tie closely the profit on the project with the remuneration of project employees. Its main disadvantage may be a demotivational influence on workers during the execution of the project (people are not motivated if the bonus is much delayed). The motivation method used in Polbau enhances the morale of employees during the execution of the project, but it also creates the risk of high labour cost even in case of unprofitable projects. Sometimes the last stages of the project are crucial for its financial success.

5.4. Division controlling

Division controlling is realized in Deutschbau at the level of product divisions and geographical divisions and in Polbud at the level of geographical divisions. The scope of information prepared by controllers at the division level is similar to the scope of information prepared at the corporate level, but it is limited to the information concerning a given division. There exist slight differences in the scope of information prepared for various divisions in Deutschbau resulting from market segment differences between the product divisions. Especially construction material division controlling gathers information peculiar to itself as it differs strongly from other divisions – it usually does not execute long-term projects like other product divisions. For supply of information at a division level in Deutschbau are responsible controllers in the divisions and in Polbud – controllers from the head office (as there are no controllers in divisions).

5.5. Project controlling

In Polbud project controlling focuses mainly on technical issues. The main tools used at this level are schedules, technical specifications, workload plans of labourers and equipment as well as cost calculations prepared by project managers, which are based on calculations prepared by sales department. In order to evaluate a project variations between the planned and actual profit are calculated as well as time variations (delay or being ahead of schedule). Project managers are responsible for performing the controlling function at the project level.

The organization of controlling at the project level is significantly different from the organization in Polbud. In Deutschbau every project has two project managers – the technical project manager and the economic project manager, who, as a team, are responsible for the results of the project. Thanks to such organization the economic project manager can focus on the financial control of project execution. The economic project manager is able to observe more thoroughly the variations between the planned and the actual costs of individual construction services. It helps to identify unfavourable trends quickly and, consequently, to correct actions in order to increase profitability of the project.

In Deutschbau one of the main objectives of project controlling is periodical, formalized risk analysis of executed project. In Polbud risk analysis is conducted in a less formalized and non-systematic way.

Summarizing, on the basis of a comparison of controlling systems used in Polish and German construction enterprises the following similarities have been identified:

- focus on financial measures,
- neglect of non-financial measures,
- focus on operational controlling,
- monthly period of internal reporting,
- lack of implementation of the newest controlling tools and techniques,
- controlling departments employing few people,
- communication problems between sales departments that prepare offers and controlling departments,
- use of many specialized (not integrated) computer software systems.

The most important differences between controlling systems in Polish and German construction companies are the following:

- the data in Deutschbau that are gathered are more detailed,
- the data in Deutschbau are collected in a more formalized manner, which is characteristic of German companies (Hahn 1996, p. 855-1208),
- there are more controllers in Deutschbau, who are employed in the head office but also in product divisions and geographical divisions,
- more data bases and standardized norms are developed in Deutschbau.

6. Planned changes in controlling systems

While the research was being conducted both companies planned to introduce changes in their controlling systems (i.e. introducing new methods and tools) in order to collect more accurate and useful data. Better information should help companies to make better decisions and to gain sustained competitive advantage on a shrinking, increasingly competitive market. Some tendencies and plans were similar in both companies. Both companies intended to:

- buy and implement modern integrated computer systems that should help to gather more data, analyse it and present it in on-line mode; such systems enable the use of more complicated and sophisticated mathematical data analysis methods as well as more interesting and clear presentation of analysis results;
- tighter connection between offer cost estimation and budgeting (thanks to integrated computer systems and new ways of communication);
- development of high quality data bases;
- stronger decentralization of controlling responsibilities;
- increase of pro-effectiveness and proactive attitude among employees.

Planned changes specific to Polbud were the following²:

- design and implementation of Balanced Scorecard,
- design and implementation of more detailed budgets and analyses,
- introduction of continuous quarterly budgeting,
- application of elements of ABC and Life Cycle Costing in cost budgeting and analysing.

In Deutschbau the following changes were planned:

- improvement of risk controlling,
- development of benchmarking,
- increase in the use of relative data (presented in relation to the whole sector and the main competitors).

7. Conclusions

Controlling systems in both companies are similar to each other in general premises. Both use similar tools and corresponding analyses. Both conduct budgeting, but the level of details is different. There are some differences between controlling systems resulting from strategies employed by the companies, situation on the market and data availability. For instance, in Deutschbau one of performance measures considered to be the most crucial is liquidity. In Polbud the management uses more detailed balance sheet analysis to evaluate company performance.

Controlling systems in both enterprises are undergoing intensive development. Both companies try to enlarge the scope of collected data, basing on the rule "what you can't measure, you can't manage". On the other hand, management of both companies try to avoid data overload that can result in "analyse till paralyse" situations.

At the time when the research was conducted controlling systems in both companies had features characteristic of operating controlling: focus on historical financial data and production issues, the use of real units of measurement, and non-elastic computer software (Sobańska 2000). In both firms, controlling methods were characteristic of operational controlling: budgets, indexes, exception reports, schedules. However, the slump in the construction sector and increasing competition resulted, in both companies, in the introduction of the elements of strategic controlling, which is more prospective, focuses on competition, uses financial and non-financial data

² Planned changes in controlling systems were developed in cooperation with a research team consisting of specialists from the Accounting Department of the University of Lodz headed by prof. Irena Sobańska.

and integrated, flexible software. Both corporations use plans to implement strategic controlling methods: balanced scorecard, benchmarking and project life time costing.

In view of Poland's approaching entry into the European Union and full liberalization of the construction market the competition between Polish and German construction companies will increase. According to Di Maggio and Powell (1983, p. 147–160) enterprises start to resemble each other because of:

- cultural expectations of clients, competitors, suppliers, governments,
- uncertainty of the environment,
- image of professionalism created among the professionals.

As shown in this article the process of unification of controlling systems in Polish and German construction companies is fairly advanced. The speed of changes in controlling systems and increase in effectiveness are factors influencing the ability to compete on the highly competitive construction market.

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CONTROLLING STRATEGICZNY I OPERACYJNY W POLSKICH I NIEMIECKICH PRZEDSIĘBIORSTWACH BUDOWLANYCH – PORÓWNANIE

(Streszczenie)

W artykule prezentowane są wyniki badań systemów controllingu w branży budowlanej. Celem niniejszego artykułu jest:

- skrótowe przedstawienie organizacji i funkcjonowania controllingu operacyjnego i strategicznego w dwóch dużych przedsiębiorstwach budowlanych z Niemiec i Polski na początku trudnego dla nich okresu dekonjunktury,

- wskazanie głównych zakresów problemowych i kierunków zmian, które mają w przyszłości wpłynąć pozytywnie na sprawność funkcjonowania tych przedsiębiorstw.

W artykule opisane są cechy charakterystyczne rynku budowlanego, przedsiębiorstw branży budowlanej, jak również metody controllingu stosowane w obu przedsiębiorstwach. W momencie prowadzenia badania systemy controllingu w opisywanych przedsiębiorstwach posiadały cechy charakterystyczne dla controllingu operacyjnego. Jednakże dekonjunktura i silniejsza konkurencja skłoniła oba koncerny do prób wdrożenia elementów controllingu strategicznego. W wyniku badań zaobserwowano upodabnianie się systemów controllingu w obu przedsiębiorstwach, co świadczy o występowaniu w nich efektu mimikry opisywanego przez P. Di Maggio i W. Powella.

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OPERATYVINĖS IR STRATEGINĖS KONTROLĖS SISTEMŲ PALYGINIMAS LENKIJOS IR VOKIETIJOS STATYBINĖSE ĮMONĖSE

(Santrauka)

Statybos sektorius yra vienas iš svarbiausių šalies ekonomikai. Straipsnis pateikia 2000–2001 metais atlikto tyrimo rezultatus. Pagrindinis straipsnio tikslas yra aprašyti kontrolės sistemos organizavimą ir funkcijas dviejose vedančiose Vokietijos ir Lenkijos įmonėse, nustatyti pagrindines problemas, iškilusias stagnaciniu periodu, atrasti tobulintinas sritis, pabrėžti planuojamus pokyčius, teigiamai veikiančius pristatytų įmonių kontrolės sistemų efektyvumą. Kontrolės sistema yra aprašoma trim – įmonės, padalinio ir projekto – lygiais. Tyrimo pradžioje abiejose įmonėse kontrolės sistemos turėjo operatyvinės kontrolės požymius. Tačiau nuosmukis statybos sektoriuje ir auganti konkurencija paskatino abi įmonės diegti strateginės kontrolės elementus. Tyrimas parodė, jog kontrolės sistemų suvienodinimo procesas Lenkijos ir Vokietijos įmonėse progresuoja.