

Top Management Team Group Structure as a Determinant of Company Performance: Empirical Evidence from Poland

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Abstract: The characteristics of Top Management Teams (TMT), which in two-tier Corporate Governance system are supervisory board and management board, are one of the most important determinants of performance of a company. At the same time, the ability to control and shape TMT effectiveness seems to be crucial for investors and shareholders. In the majority of studies, TMT effectiveness is related to the structure of a managing group described by the number of members, their education and experience, as well as gender and origins. The aim of the article is to present the study conducted among 291 companies listed from 2010 to 2013 on the main market of Warsaw Stock Exchange, which enabled the identification of the relations between TMT structure and company performance in case of enterprises operating in Poland. The paper has been prepared in the framework of research project which was funded by the National Science Centre, decision no. UMO-2011/01/N/HS4/02166.

Key words: supervisory board; management board; effectiveness; board structure

JEL code: G39

1. Introduction and Background

The functioning and effectiveness of supervisory boards and management boards have been a point of attention of practitioners and theorists for a long time. An incentive to conduct research in this area was the identification in the eighties of clear relationship between the characteristics of Top Management Teams (TMT) and performance of the company. Given the “upper echelons theory” (Hambrick & Mason, 1984), the focus on Top Management Teams (TMT) replaces studies on individuals as key decision makers in organizations (Jackson, 1992). Nowadays identifying and shaping factors related to the structure of TMT determining the effectiveness of a company have become one of the key issues of Corporate Governance.

Contemporary research is dominated by static approach, in which the impact of TMT structure is considered to be the most important. The analyzed features are usually the size and heterogeneity of the team, tenure, experience and expertise of board members (Figure 1).

However, the static approach does not allow to identify direct relationship between characteristics of TMT and company effectiveness. Studies on the size of TMT, its composition and company performance conducted from 1998 to 2007 in Germany by Bermig and Frick (2010), led the authors to unexpected conclusions. They admitted that the results obtained did not allow to formulate a coherent effect of the size of the board or its

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composition and their relationship to economic performance. In other studies (Van der Walt et al., 2006) the attempt to describe the relationship between the TMT effectiveness and the degree of its diversity in terms of age, gender, ethnicity and skills was made. However, the results did not confirm the hypothesis that greater diversity provides higher efficiency.

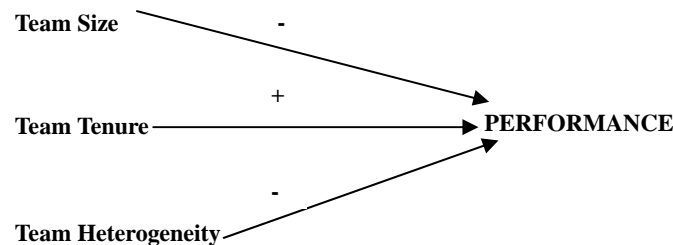


Figure 1 Demographic Model of Company Performance

Source: Smith et al., 1994, p. 417.

Theoretical considerations lead to conclusions that the advantage of a large team is the diversity of skills and experiences of its members. In case of boards of directors, in one-tier system of Corporate Governance, often cited benefits of a large number of team members is the ability to establish multiple relationships with the environment, better protection of resources, and higher quality and versatility of the opinions issued by the board. At the same time, greater heterogeneity of the team results in multi-faceted look at the problems of the organization and a greater potential for innovation (Wiersema & Bantel, 1992)

On the other hand, too large size may have difficulty in efficient implementation of assigned functions –the team may experience communication difficulties, sometimes resulting in incorrect information sharing and possible domination of chairman of the board (Elsayed, 2009, p. 418) or to so-called effect of diffusion of responsibility, i.e., social loafing (Castro et al., 2009). Another problem of more numerous boards may be lower level of cohesiveness of the team.

In Poland, one of few studies of TMT structure and company performance was conducted by Peszko (2006). Their aim was to identify the relationship between education and experience of members of supervisory boards and the efficiency of enterprises, understood in terms of liquidity and profitability. The conclusions refer to unjustified high impact of labor unions on the decisions, and too high number of board members with legal background.

According to the results of another study conducted in Poland from 2005 to 2008 by Bohdanowicz (2010), larger size of management board has positive impact on company performance, whereas in case of supervisory board the relation is reversed.

2. The Construction of the Study

The main goal of the study was the identification of the relations between TMT structure and the performance of companies operating in Poland. In the next part of the article, the hypotheses, research sample, and research methods are to be described.

2.1 Hypotheses

The following two hypotheses are taken as basis to the empirical investigation:

H1: For companies operating in Poland, it is possible to identify typical structural characteristics of TMT that

are the most important for performance of companies.

H2: There is no direct relation between TMT structure and the efficiency of enterprises.

2.2 Research Sample

All the companies listed on the main market of the Warsaw Stock Exchange (Poland) from 2010 to 2013 were under scrutiny. In total there were 291 companies from different sectors.

2.3 Research Methods

2.3.1 TMT Structure

On the basis of studies of resumes of TMT members (over 4500 documents), the structure of supervisory boards and management boards was described referring to the following aspects:

- the number of members of supervisory board and management board,
- rotation of the members of supervisory board and management board,
- the level of education of members of supervisory board and management board (in terms of academic degrees or titles),
- field of education of members of supervisory board and management board (four areas of specialization were taken into account: technical, economic, legal and others),
- diploma of MBA studies,
- postgraduate studies in economics,
- diversity of gender,
- diversity of origins.

Similarly as in the studies conducted by Carpenter (2001, p. 8) and Van-Ness et al. (2010), the diversity of education etc. was described by Blau Index expressed by the formula:

$$IB = 1 - \sum p_i^2 \quad (1)$$

Where p_i is the percentage of members who specialize in a particular field. The higher the value is, the greater the diversity.

2.3.2 Company Performance

Meta-analysis of the studies on the impact of TMT structure on the effectiveness of the company, leads to the conclusion that in the majority of cases company performance was expressed by the financial results of the enterprise (Carpenter & Fredrickson, 2001; Carpenter, 2002; Van Ees, Postman & Sterken, 2003; Peszko, 2006; Van der Walt et al., 2006; McIntyre, Murphy & Mitchell, 2007; Bermig & Trick, 2010; Bohdanowicz, 2010; Hsu, 2010; Van-Ness, Miesing & Kang, 2010). Moreover, the meta-analysis performed by Elsayed (2009, pp. 420-422) including twenty studies-other than those mentioned above-on relationships between the size of TMT and company performance, showed that the most commonly used indicators are ROA, ROE, ROS, Tobin's q, and the value of shares.

Given the methods used in previous studies, in the described study company performance was measured by two indicators-changes in return on assets (Δ ROA) and Tobin's Q. The value of Tobin's Q was calculated basing on the following simplified formula used by, among others, Bohdanowicz (2010, p. 22):

$$\text{approximate value of Tobin's Q} = \frac{\text{market value of equity} + \text{liabilities} + \text{long-term liabilities}}{\text{book value of total assets}} \quad (2)$$

For the analysis, data from the annual consolidated financial reports were used.

3. Analysis of Results

At the first stage of analysis, exploratory factor analysis (EFA) was used in order to identify the parameters describing TMT structure the best, and at the second stage — because of the high possibility of the complexity of the relationship between the variables — structural equation modeling (path analysis and confirmatory factor analysis) was applied. Results that are statistically significant ($p < 0.05$) are marked with an asterisk (*).

Table 1 Structure of TMT

	Supervisory Board				Management Board			
	2010	2011	2012	2013	2010	2011	2012	2013
Number of seats	5.60	5.68	5.78	5.71	3.15	3.21	3.24	3.16
Men	88%	88%	88%	88%	88%	89%	89%	89%
Women	12%	12%	12%	12%	12%	11%	11%	11%
Gender diversity	0.16	0.16	0.17	0.17	0.11	0.12	0.11	0.11
Foreigners	9%	9%	9%	9%	4%	4%	4%	4%
Secondary education	6%	6%	6%	6%	6%	6%	6%	6%
Bachelor degree	1%	1%	1%	1%	1%	1%	1%	1%
Master Degree	76%	76%	77%	77%	86%	86%	87%	87%
PhD	9%	9%	9%	10%	5%	5%	5%	4%
Professor	6%	6%	5%	5%	0%	0%	0%	0%
Diversity of the degree of education	0.33	0.33	0.32	0.32	0.15	0.15	0.14	0.12
Technical education	22%	22%	23%	22%	34%	33%	34%	34%
Economic education	42%	43%	42%	44%	42%	43%	43%	43%
Legal education	17%	16%	16%	16%	7%	6%	6%	6%
Other	12%	13%	13%	13%	11%	12%	12%	12%
Diversity of education	0.59	0.59	0.59	0.57	0.41	0.43	0.43	0.43
Experience in being a board member	58%	59%	59%	59%	42%	43%	43%	42%
Diploma of MBA studies	8%	9%	10%	9%	16%	16%	16%	16%
Postgraduate economic studies	13%	13%	13%	13%	18%	19%	19%	19%

Source: own study.

The analysis shows (Table 1) that managerial positions are dominated by men, while women make up only for 12 percent of supervisory board (SB) members and 11 percent of management boards (MB). Among managers outweigh those with a master's degree (approx. 76 percent of members of SB and approx. 86 percent of MB). Every tenth member of SB and every twentieth member of MB has a PhD degree, and Professors stand for approx. 5 percent of SB. TMT are dominated by people with economic education (approx. 43 percent). 34 percent of MB members have technical education, while only 22 percent of members of SB do so. In SB there are more lawyers (13 percent compared to 6 percent). It is also worth noting that 59 percent of SB members and approx. 42 percent of MB members have experience in working in TMT, i.e., they have occupied such positions before.

As for the verification of H1, on the basis of exploratory factor analysis it was found that there are two groups of variables important for supervisory board structure (Figure 2). These are the variables related to the structure of the fields of education (number of members with a degree in economy, number of members with a legal background, diversity of fields of education) and variables related to the structure of the degree of education (number of members with PhD degree and Professors, diversity of levels of education). Moreover, individual variables important for supervisory board structure were identified. These are the size of the team, rotation and

diversity in terms of gender and origin.

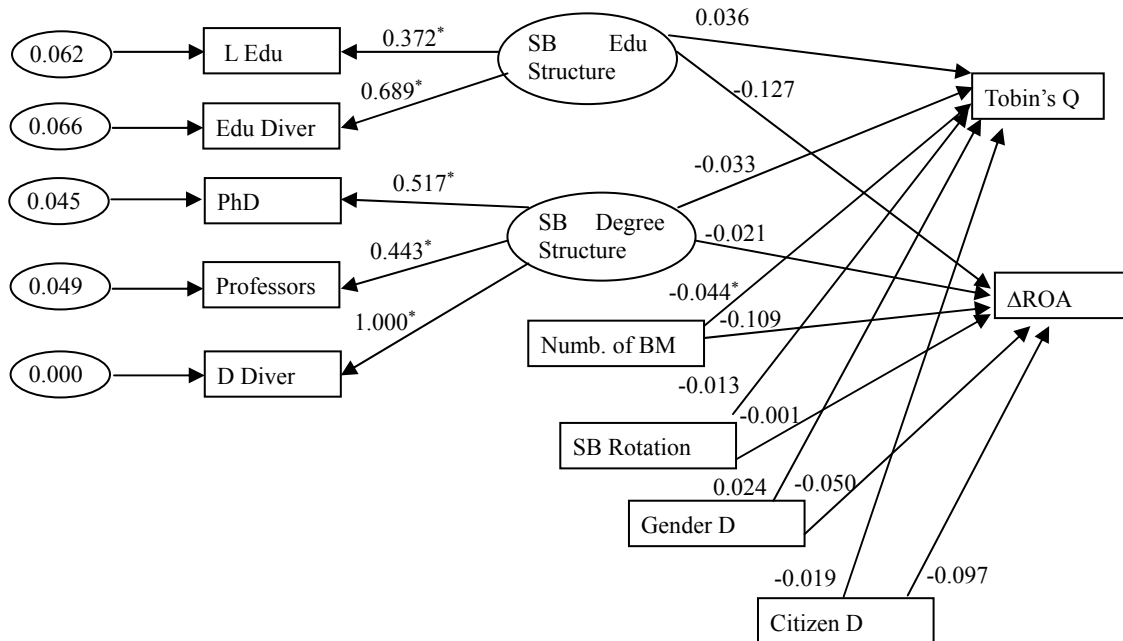


Figure 2 Relations between Supervisory Board Structure and Company Performance

Symbols:

SB Edu Structure — structure of fields of education (economics, technical, legal, other)

No E Edu — no education in economics

L Edu — legal education

Edu Diver. — diversity of fields of education (economics, technical, legal, other) (Blau Index)

SB Degree Structure — structure of degrees of education of Supervisory Board

D Diver. — diversity of degrees of education (Blau Index)

Numb. of BM — number of Supervisory Board members

SB Rotation — rotation of Supervisory Board members

Gender D — gender diversity (Blau Index)

Citizen D —citizenship diversity (Blau Index)

Source: own study

Figure 2 also illustrates impact of supervisory board structure on the effectiveness of the company. Given the perspective of supervisory board structure, differences in specialization and education of members appear to be important and the situation when the number of lawyers is lower than of economists is preferred. The level of differentiation of the degree of education is less significant, while number of board members must be taken into account. There is a tendency that better results of the company (measured by Tobin's q) are achieved by smaller teams.

In the reference to H2, path analysis shows that the relation between supervisory board structure and the effectiveness of company is very weak. Goodness of fit of constructed model is satisfactory (e.g., Steiger-Lind RMSEA Index is 0.099; Population Gamma Index is 0.927 and Jöreskog-Sörbom GFI Index is 0.902).

The further verification of H1 with reference to management boards was conducted. On the basis of exploratory factor analysis it was found that there is one group of variables important for management board structure (Figure 3). This group of variables consists of the number of members with no degree in economy, number of members with no adequate experience, diversity of fields of education, and diversity of degrees of

education. Moreover, rotation of management board members appears to be important variable.

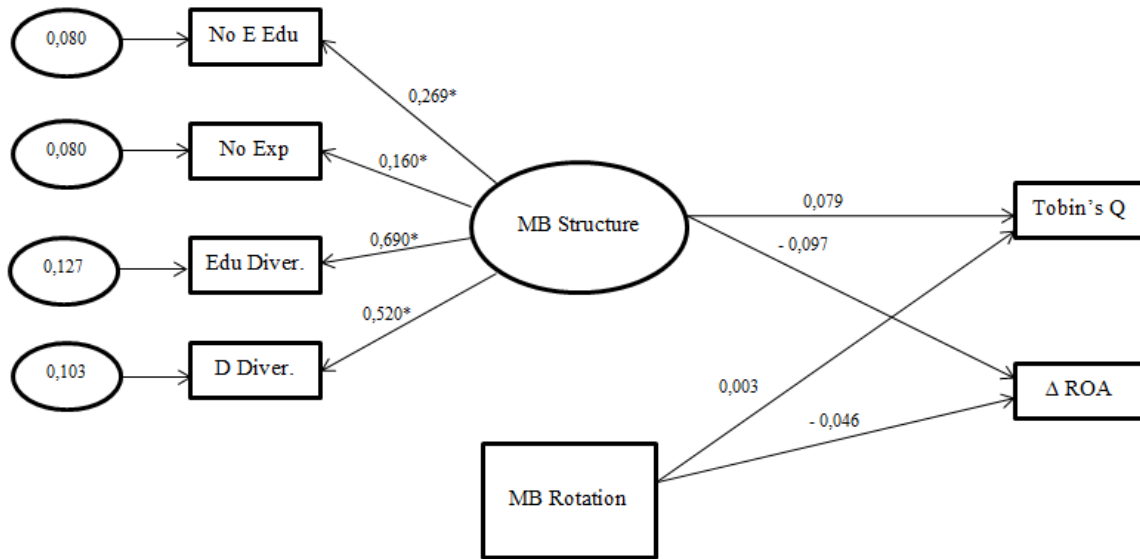


Figure 3 Relations between Management Board Structure and Company Performance

Symbols:

MB Structure — structure of Management Board

No E Edu — no education in economics

No Exp — no previous experience in boards

Edu Diver. — diversity of fields of education (economics, technical, legal, other) (Blau's Index)

D Diver. — diversity of degrees of education (Blau's Index)

MB Rotation — rotation of Management Board members

Source: own study

Figure 3 also illustrates impact of management board structure on the effectiveness of the company. Goodness of fit of constructed model is satisfactory (e.g., Steiger-Lind RMSEA Index is 0.014; Population Gamma Index is 0.971 and Jöreskog-Sörbom GFI Index is 0.975). Similarly as in case of supervisory boards, path analysis shows almost no direct relation between management board structure and the effectiveness of company (H2).

4. Conclusions and Future Research

The results of the study enrich the theoretical concept of the impact of characteristics of TMT on company performance, and above all, provide empirical verification of theoretical models. The analysis of gathered data enabled the identification of factors that are typical for TMT of companies operating on Polish market. In case of supervisory boards the degree and field of TMT members' education appears to be the most important, whereas in case of management boards it is the diversity of education. Moreover, it is worth emphasizing that the number of men strongly exceeds the number of women on boards, and this trend has not changed within four years.

As for relation between TMT characteristics and the performance of the company, the analysis of the data supports the hypothesis that there is no direct relation. The results of the described study conducted in Poland are consistent with the effects of various others studies conducted abroad (ex. Bermig & Frick, 2010; Van der Walt et al., 2006; Jackson, 1992). This suggests that the impact of the characteristics of supervisory board and

management board on economic performance is neither simple nor direct (Forbes & Milliken 1999, p. 490). Therefore the suggestions for further research regard empirical verification of models based on group dynamics. The ambiguity of current results may be overcome by including social dynamics, i.e., social relations and processes typical of TMT

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