Supervisory Board group dynamics as a determinant of team and company effectiveness. Empirical evidence from Poland

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Abstract
The structure and functioning of Supervisory Board are the most important determinants of team effectiveness and the performance of a company. At the same time ability to control and shape Top Management Team (TMT) effectiveness seems to be crucial for investors and shareholders. In traditional concepts, TMT effectiveness is related to the structure of the managing group, however the inconsistency of empirical studies implies further search for other explanations. One of them is a concept of group dynamics, which emphasizes indirectness of the relation between group characteristics and group effectiveness, as well as the importance of group processes, such as effort norms, cognitive conflict or group cohesiveness. The study conducted among companies listed on the main market of Warsaw Stock Exchange (Poland) enabled the construction of model illustrating the above relations. Moreover, the significance of group processes for team effectiveness was explored.

1. Introduction

In traditional approach, Top Management Teams (TMT) effectiveness is related to team characteristics. As there is no clear explanation of such a direct relation and the results of various studies are not consistent (ex. Bermig & Frick, 2010; Van der Walt et al., 2006, Jackson, 1992), models based on group dynamics gain more and more significance. Their main assumption is that group effectiveness depends on group processes, partially determined by group demography.

2. Supervisory Board group dynamics

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). Initially, TMT characteristics were considered to have crucial significance for group effectiveness and organization performance. However, no consensus could be reached as to what extend and which TMT demographic features lead to which outcomes (Forbes & Milliken, 1999), what suggests that the relation between company performance, TMT effectiveness and TMT characteristics is indirect and more complex. According to Nadler, this ambiguity may be overcome by including social dynamics, i.e. social relations and processes inside and outside TMT (Nadler, 2004; LeBlanc & Gillies, 2003). Dynamic models based on group processes relate indirectly group characteristics with group effectiveness (Edmondson et al., 2003; Forbes & Milliken, 1999; Murphy & McIntyre, 2007), as presented in a sample model below.

The model (Fig. 1) described by Forbes and Milliken (1999), consists of static and dynamic elements. TMT demography determines the presence of knowledge and skills as well as distinguished group processes, which according to Forbes and Milliken include effect norms, cognitive conflict, use of knowledge and skills,

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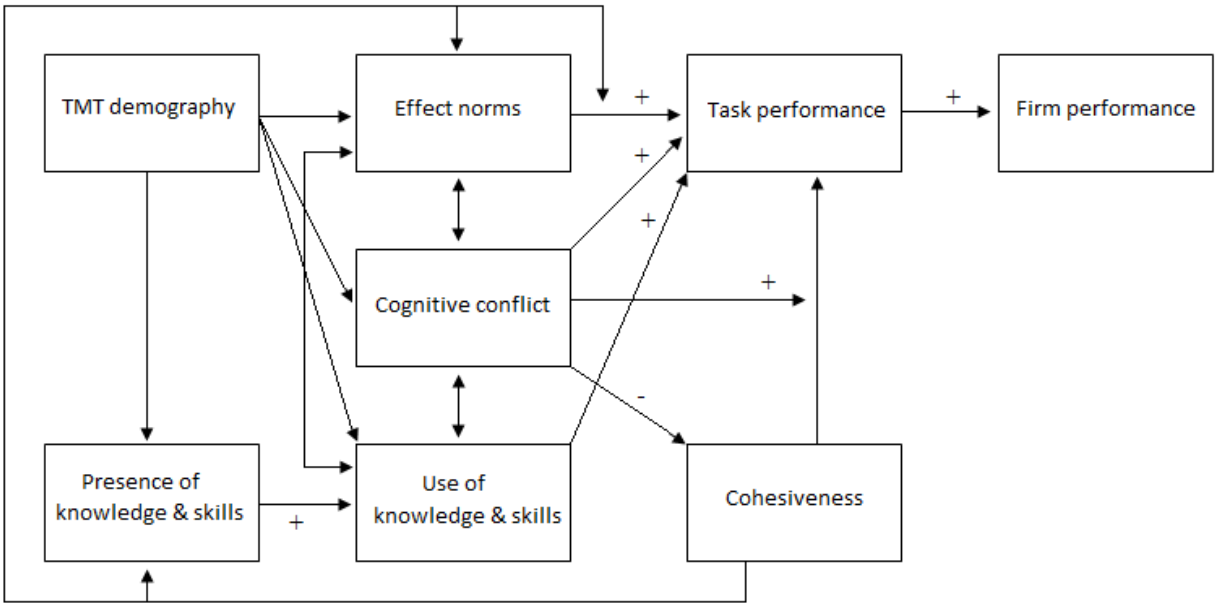

Fig. 1 The model of TMT dynamics by Forbes and Milliken

Source: Forbes & Milliken, 1999, p. 498.

and cohesiveness. These processes do not occur separately, but they influence each other. Further on, group processes affect task performance defined as TMT ability to provide control and service. Effective control and service determine organization performance. As presented, group processes are essential elements to understand indirect relation between group demography and its outcomes.

Conflicts

On the basis of observation of teams cooperation, it is possible to distinguish two main group of conflicts: cognitive/task conflicts, related to the problems of a company, and relation/affective conflicts reffering to emotional aspects of interpersonal relations.

Cognitive conflict, which apears to have more importance, is defined by Forbes and Milliken as "task-oriented differences in judgment among group members (and) is concerned with the presence of issue-related disagreement between members" (Forbes & Milliken, 1999, p. 494).

Cohesiveness

Group cohesiveness refers to the strength of social bonds between group members, i.e. interpersonal attraction and mutual liking among group members (Jackson, 1992). It is also understood as a sense of connectedness between TMT members. Cohesion influences TMT cognitive process as well as TMT members' affective states. Cohesiveness may encourage teams to participate in discussions and to express views, but it may also reduce differences in opinions and negatively impact TMT effectiveness.

Group norms

Group norms concern the manner of assessing and evaluating behaviors and attitudes which are accepted by a particular group. They may refer to different aspects of TMT functioning, such as solving conflicts or risk-taking. For example, effect norms are defined as "shared beliefs regarding the level of effort each individual is expected to put toward a task" (Forbes & Milliken, 1999, p. 493).

In practice, better understanding of the impact of TMT structure and dynamics on company performance will enable the development of guidelines for the selection of TMT members. Additionally, the conclusions de-

rived from the studies of TMT group dynamics may be applied in trainings resulting in the improvement of board's effectiveness, or in order to moderate TMT meetings.

Finally it should be emphasized that the study of group dynamics also includes team structure. Static characteristics of board are not ignored, but at the same time they are not directly related to economic performance of the company.

For example, Tuggle et al. (2010) analyzed the relationship between the composition of the management team and the process of discussion and consultation. Some structural features of TMT, such as the diversity of specialization and diversity of education, appeared to have impact on a chosen group process. Their findings suggest that the level of diversity can increase the number of questions, improve the quality of discussion and lead to a more careful analysis of the presented ideas. Group dynamics turns out to be an effective tool to predict the performance of TMT.

3. The Construction of the study

The main goal of the study was the identification of the relations between supervisory board group dynamics and team effectiveness. Moreover, the relations between supervisory board structure, group dynamics and the performance of companies were analyzed. In the next part of the article, the hypotheses, research sample, and research methods are to be described.

Hypotheses

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

H1: For companies operating in Poland, it is possible to identify group processes typical of supervisory boards that are the most important for teams' effectiveness and the performance of enterprises.

H2: The structure of supervisory board impacts board's group dynamic.

Research Sample

46 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, however representatives of not all supervisory boards agreed to take part in the study. The selection of the sample was not random, because of difficulties related to the acquisition of data about group dynamics.

Research Methods

Supervisory board group dynamics. The analysis of group dynamics of supervisory boards was based on the data collected from the survey (conducted via Internet or during interviews) conducted among 46 representatives of various supervisory boards of companies from above-described research group.

The questionnaire used in the study was created as a part of the broader project and it was methodologically verified during the pilot study among 81 participants in Poland – its reliability is acceptable. The questions regarded five group processes, which are:

- cohesion,
- cognitive conflict,
- affective conflict,
- effort norms, and
- leadership.

The questionnaire contains. 22 issues related to above stated group processes, which respondents had to assess on the five-point Likert scale.

Due to the difficult access to the people who sit on supervisory boards, the selection of the sample was not random. Although the official request to participate in the survey was sent to all of 291 companies listed on the main market of the Warsaw Stock Exchange (Poland) from 2010 to 2013, board members of only 46 of them agreed to describe the functioning of the team. That should be considered while formulating conclusions from the analysis.

TMT Structure. On the basis of studies of resumes of TMT members (over 3 000 docu-

ments), 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:

$$IB = 1 - \Sigma p^2 \quad (1)$$

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

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, p. 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 (ΔROA) 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):

approximate value of Tobin's Q
= (2)
(market value of equity
+ liabilities + long-term liabilities)/
book value of total assets

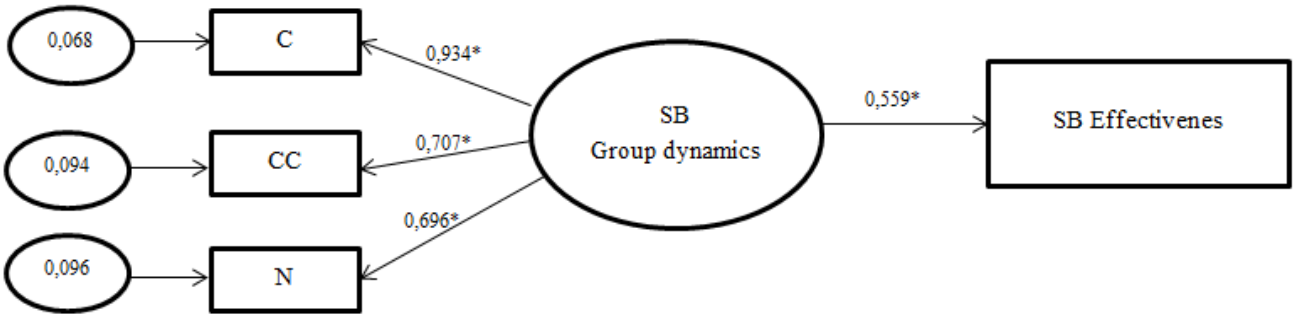

Fig. 2. Relations between supervisory board group dynamics and team's effectiveness

Symbols:
C – cohesiveness
CC – cognitive conflict
N – effort norms

Source: own study.

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

4. 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 (*).

The results of the study confirm that the effectiveness of supervisory boards depends on group dynamics (H1), especially on cohesion, cognitive conflict, and group norms (Figure 2). The significance of these variables was identified on the basis of exploratory factor analysis.

Further analysis, including path analysis, proved that the effectiveness of supervisory boards depends on group dynamics of the board, as regression coefficient is. 56% and is statistically significant at a confidence level of $p < 0.05$. Goodness of fit of constructed model is satisfactory (eg. Steiger-Lind RMSEA Index is. 0.033; Population Gamma Index is. 0.999 and Jöreskog-Sörbom GFI Index is. 0.975).

Moreover, the general tendency was observed: the greater the difference of opinion between team members, the higher cohesion, and the higher effort norms, the better team effectiveness, understood as the fulfillment of the tasks.

Another area of analysis was related to the relations between supervisory board structure and group dynamics, and company performance (Figure 3). First of all, the correlation between group dynamics – described by coherence, cognitive conflict, and effort norms – and supervisory board structure was analyzed. These group processes are influenced by a structure of education of supervisory board

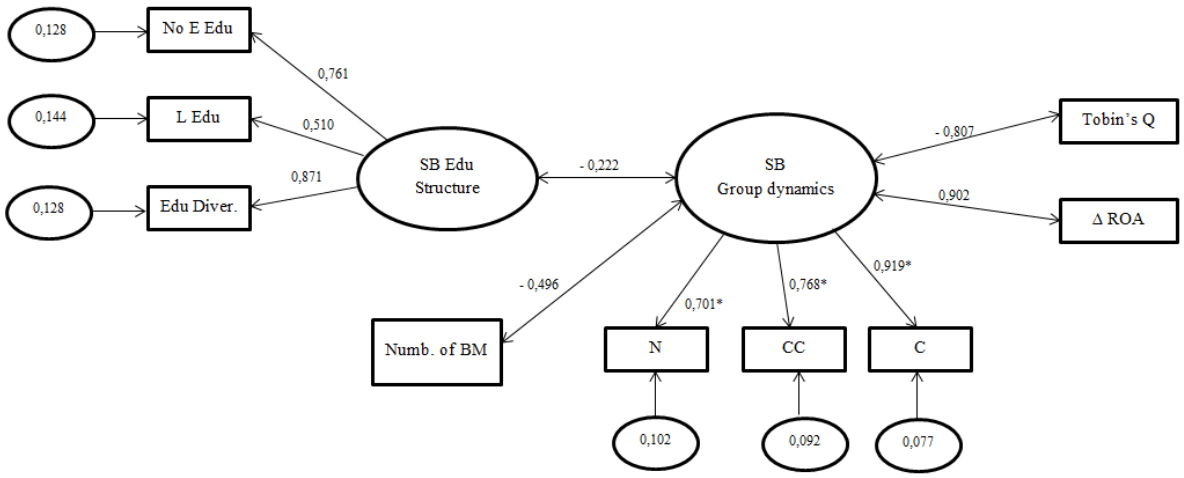

Fig. 3. Relations between the structure of supervisory board, group dynamics and company performance

Symbols:
C – cohesiveness
CC – cognitive conflict
N – effort norms
SB Edu Structure – structure of fields of education (economics, technical, legal, other) of Supervisory Board
No E Edu – no education in economics
L Edu – legal education
Edu Diver. – diversity of fields of education (economics, technical, legal, other) (Blau Index)

Source: own study.

members, related to the number of members with no degree in economics, number of members of with a legal background, and diversity of fields of education (H2).

Secondly, as the result of confirmatory factor analysis, a strong correlation was observed between group dynamics and the results of companies expressed by Tobin's Q and ΔROA (H1). However, due to the limited number of data on the group dynamics, it is impossible to identify statistically significant relationships between group dynamics and effectiveness of supervisory boards and companies performance. Goodness of fit of constructed model is satisfactory (eg. Steiger-Lind RMSEA Index is. 0.000; Population Gamma Index is. 1.000 and Jöreskog-Sörbom GFI Index is. 0.832).

5. Conclusions

With the growing significance of dynamic models of TMT effectiveness, there appears a need for developing methods of their empirical verification and diagnosing TMT group processes. As so far, few attempts were made to diagnose group processes typical of supervisory boards. That is why the value of described study have two dimensions: first of all, it has provided observations related to the structure and functioning of supervisory boards, and secondly, it has exposed problems that have to be overcome in further studies. The main limitations are associated with difficult access to supervisory board members who would agree to describe the way of functioning of their teams.

The results of the study enrich the theoretical concept of the impact of structural and dynamic characteristics of TMT on company performance, and above all, provide empirical verification of theoretical models. Additionally, the research on the group dynamics of supervisory boards reveals new opportunities of understanding of the relationship between TMT and companies effectiveness and fill the gap in national studies.

At the same time, the results of the research suggest that the attention in further studies should be focused on TMT members' education in case of TMT structure, and in case of group dynamics, on such group processes as cohesion, cognitive conflict, effort norms.

A better understanding of the importance of the structure and group dynamics of TMT for company effectiveness enables the development of group processes conducive to the effectiveness of teams and company performance, which is a good reason to continue the research in this area.

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