

## CORRELATION ANALYSIS OF THE AUDIT COMMITTEE AND STRUCTURAL INDICATORS

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### **Abstract**

*The main role of corporate governance is to restore market confidence and in this process plays an important role the audit committee. The purpose of this case study is to analyze the correlations between the Audit Committee and structural indicators. Considering the achievement of the objectives proposed in this research, our research is based on a deductive approach from general aspects to particular aspects that combines quantitative and qualitative studies. Theoretical knowledge is used for a better understanding of a phenomenon and not for making assumptions. Thus, in order to achieve our study, we selected 25 companies listed on Berlin Stock Exchange. Following this study, we concluded that the role of the audit committee is crucial.*

**Keywords:** *Audit committee, independence, professional expertise, structural indicators*

**Jel clasification:** *M40,M41,M42*

### **1. Introduction**

The term of audit committee is closely related to scandals from United States of America - Enron, Worldcom, etc.. It is considered that the financial reporting process based on audit committee of a corporation. Since their inception, audit committees have responsibilities established by law, but after Enron, audit committees increased their respective responsibilities according to the Sarbanes-Oxley Act of 2002.

Bertschinger & Schaad (2003) believe that the members of audit committee should not exceed a total of 4 members, except for unusual circumstances. We could say that the number of the members of the audit committee is directly related to the size of the company and to the workload [1].

In 1992, Cadbury stated a number of 2 sittings per year (Annex 4, paragraph 6). To meet the requirements of today, it is considered that a total of two sittings per year is too little, considering the amount of work. At its core, the Cadbury Report recommended that companies should appoint three independent non-executive directors, separate the roles of chair and CEO, and have an audit committee and a remuneration committee. The Cadbury Code (1992) stated that non-executive directors should bring an independent judgement to bear on issues of strategy, performance, resources, including key appointments, and standards of conduct. The Securities and Exchange Commission (“SEC”) and the New York Stock Exchange (“NYSE”) also took up the matter, leading ultimately to the “Blue Ribbon Report” on the independence of the audit function and on the audit committee [2].

Since the early 90’s, the independence of audit committee members became very important [3]. Regarding the independence of the audit committee’s members, requirements vary from one area code to another and also the interpretation may be different. Some firms require independent members of the board’s audit committee or corporate governance committee to approve related party transactions.

Nowadays, the need for a financial expert within an audit committee is recognized internationally. This financial expert must have accounting and financial knowledge in order to make connections and to be able to get quick answers to questions [4]. Blue Ribbon report already mentions the need for a financial expert. This recommendation was taken by Sarbanes Oxley after three years. Also, Combined Code (princ. C. 3.1.) makes the recommendation that one member of the audit committee to be a chartered accountant.

Blue Ribbon Report contains 10 recommendations regarding audit committees, including a number of recommendations regarding the independence of the audit committee’s members:

1. The members of the audit committee must be independent of the company.
2. The audit committee must be composed only of members who are not part of the management.
3. The audit committee must be composed of at least 3 independent members. They must obtain a deep knowledge in the field of financial accounting.

It also suggests that audit committees are effective in reducing the appearance of errors in earnings management, which may lead to inaccurate financial statements [5],[6].

Craven and Wallace consider that an effective audit committee should focus on improving performance and competitiveness of entity [7]. Also, Wathne and Heide's consider that the effectiveness of an audit committee is based tracking entity to maximize value for shareholders and prevent obtaining personal benefits by managers [8].

The practitioners suggest that audit committees are not strong enough to resolve conflicts with management. It is generally accepted that for an audit committee to be effective, a majority, if not all members should be independent [9] and should have knowledge in accounting, auditing and control [10].

## 2. Research Methodology

The methodology involved quantitative research methods with the purpose of classification of information, building statistical models and explain the results. For the study case we selected a sample of 25 companies listed on the stock exchange in Berlin and company annual financial reports available on their website. Based on data we calculated for each company financial indicators for 2012, which I then imported into SPSS in order to achieve empirical analysis of the impact of the Audit Committee on the performance characteristics of the entity.

To achieve that goal we have chosen a sample of 25 companies listed on the main stock index in Berlin. Thus we selected the top 25 in terms of the entity of the market value of the shares. For each entity, we extract information on the audit committee and financial indicators to study a possible correlation between them.

The characteristics of the Audit Committee included in the analysis are:

- ✓ Number of members
- ✓ Structure of the Audit Committee
- ✓ Number of meetings
- ✓ Professional Experience
- ✓ Independence of Audit Committee
- ✓ Position of the Audit Committee

On that basis of these elements we formulated the six hypotheses:

H1: The number of members of the Audit Committee does not influence the performance of the entity, the alternative that the members of the Audit Committee influence the performance of the entity.

H2 : The structure of the Audit Committee does not influence the performance of the entity, the alternative that the structure influences the performance of the entity's audit committee.

H3 : The number of meetings does not affect the performance of the entity, the alternative that the number of meetings influence the performance of the entity.

H4 : The professional experience of the members of the Audit Committee does not influence the performance of the entity, the alternative that the level of experience influences the performance of the entity.

H5 : The independence of the Audit Committee does not influence the performance of the entity, the alternative audit committee independence affects the entity's performance.

H6 : Position Audit Committee within the entity does not influence its performance with an alternative that has an influence on the entity's performance

## 3. The study results

To present the results we analyzed the existence of correlations between selected factors and performance entities selected sample represented by indicators of structure, D / CPR and Ln (TA). Because our sample has a relatively small number of elements, we decided to fix a significance threshold of 0.1. The initial form of the model is the following:

$$D/CPR = \alpha_0 + \alpha_1 \text{Nr\_members} + \alpha_2 \text{Structure} + \alpha_3 \text{Nr\_meetings} + \alpha_4 \text{Prof\_Exp} + \alpha_5 \text{Independence} + \alpha_6 \text{Position} \quad (1)$$

$$\text{Ln(TA)} = \alpha_0 + \alpha_1 \text{Nr\_members} + \alpha_2 \text{Structure} + \alpha_3 \text{Nr\_meetings} + \alpha_4 \text{Prof\_Exp} + \alpha_5 \text{Independence} + \alpha_6 \text{Position} \quad (2)$$

The Correlation analysis between D / CPR and audit committee characteristics revealed that no identifiable influence of independent variables on the dependent variable.

Thus, by analyzing all the variables in a regression we obtained the following results:

**Table nr.1:** ANOVA statistical test - dependent variable Ln(TA)

| Model |            | Sum of Squares | df | Mean Square | F     | Sig.              |
|-------|------------|----------------|----|-------------|-------|-------------------|
| 1     | Regression | 22.140         | 5  | 4.428       | 1.595 | .209 <sup>b</sup> |
|       | Residual   | 52.740         | 19 | 2.776       |       |                   |
|       | Total      | 74.879         | 24 |             |       |                   |

a. Dependent Variable LN\_TA

b. Predictors:(Constant), Independence, Structure, Nr\_meetings, Prof\_Exp, Nr\_members

Source: Author's projection with SPSS

Analyzing the Sig (from Table ANOVA) corresponding to this regression, we notice that it is greater than 0.1, then the linear relationship between variables is not considered significant. Therefore, the general form of the model is not appropriate and we have to eliminate some variables. By analyzing the Correlations table will eliminate variables whose significance exceeds the permissible Sig: Structure, Nr\_meetings, Prof\_Exp and Position.

**Table nr2:** Correlations between variables - dependent variable Ln(TA)

|                     |              | LN_TA | Nr_members | Structure | Nr_meetings | Prof_Exp | Independence | Position |
|---------------------|--------------|-------|------------|-----------|-------------|----------|--------------|----------|
| Pearson Correlation | LN_TA        | 1.000 | .348       | -.034     | .118        | -.070    | -.503        |          |
|                     | Nr_members   | .348  | 1.000      | -.198     | .331        | .026     | -.396        |          |
|                     | Structure    | -.034 | -.198      | 1.000     | -.296       | -.193    | .028         |          |
|                     | Nr_meetings  | .118  | .331       | -.296     | 1.000       | .075     | -.165        |          |
|                     | Prof_Exp     | -.070 | .026       | -.193     | .075        | 1.000    | .420         |          |
|                     | Independence | -.503 | -.396      | -.028     | -.165       | .420     | 1.000        |          |
|                     | Position     |       |            |           |             |          |              | 1.000    |
| Sig.(1-tailed)      | LN_TA        |       | .044       | .437      | .287        | .370     | .005         | .000     |
|                     | Nr_members   | .044  |            | .172      | .053        | .451     | .025         | .000     |
|                     | Structure    | .437  | .172       |           | .075        | .177     | .447         | .000     |
|                     | Nr_meetings  | .287  | .053       | .075      |             | .360     | .216         | .000     |
|                     | Prof_Exp     | .370  | .451       | .177      | .360        |          | .020         | .000     |
|                     | Independence | .005  | .025       | .447      | .216        | .020     |              | .000     |
|                     | Position     | .000  | .000       | .000      | .000        | .000     | .000         |          |

Source: Author's projection with SPSS

Conclusively, we have accepted hypothesis H2, H3, H4 and H6 respectively the fact that these factors do not influence the dependent variable of Ln(TA).

By building a regression with the remaining variables we obtain the following results:

**Table nr.3:** ANOVA statistical test - dependent variable Ln(TA)

| Model |            | Sum of Squares | df | Mean Square | F     | Sig.              |
|-------|------------|----------------|----|-------------|-------|-------------------|
| 1     | Regression | 20.909         | 2  | 10.455      | 4.262 | .027 <sup>b</sup> |
|       | Residual   | 53.970         | 22 | 2.453       |       |                   |
|       | Total      | 74.879         | 24 |             |       |                   |

a. Dependent Variable LN\_TA

b. Predictors:(Constant), Independence, Nr\_members

Source: Author's projection with SPSS

The final regression formula is:

$$\text{Ln(TA)} = \alpha_0 + \alpha_1 \text{Nr\_members} + \alpha_5 \text{Independence} \quad (3)$$

The value of F, 4.262, have tested the global significance of the independent variables. Sig value of the ANOVA model is 0.027, which is less than the chosen significance threshold of 0.1. Therefore the linear relationship between the variables analyzed is significant. Following our analysis we can say that we reject the hypothesis H1, H5, and therefore we accept their alternatives, namely that Nr\_members Independence of Audit Committee and members influence Ln(TA).

From the Table of Correlations by Pearson's coefficient analysis we observed that the members of the Audit Committee Independence is directly correlated with Ln(TA), suggesting that an increase of the number of independent members on the committee will determine an increase in the Ln(TA) and vice versa. Regarding to relationship between the members of the Audit Committee and Ln(TA) it is an indirect one. Sig-sized amount of variables considered in the model falls within the established materiality.

The Summary shows the linear regression correlation coefficient R, the coefficient of determination R<sup>2</sup>, standard error, and Durbin-Watson.

**Table nr.4: Model Summary – dependent variable Ln(TA)**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics |          |     |     |               | Durbin-Watson |
|-------|-------------------|----------|-------------------|----------------------------|-------------------|----------|-----|-----|---------------|---------------|
|       |                   |          |                   |                            | R Square Change   | F Change | df1 | df2 | Sig. F Change |               |
| 1     | .528 <sup>a</sup> | .279     | .214              | 1.566266                   | .279              | 4.262    | 2   | 22  | .027          | 1.577         |

a. Predictors: (Constant), Independencea, Nr\_members

b. Dependent Variable: LN\_TA

Source: Author's projection with SPSS

The independent variables in the regression explained variance Ln (TA) at a rate of 21.40%, as indicated by the value of R<sup>2</sup>. Therefore we consider that between Ln (TA) and the independent variables are low correlation.

**Table 5: Coefficients situation - dependent variable Ln(TA)**

| Model         | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. | 90.0% Confidence Interval of B |             | Correlations |         |       |
|---------------|-----------------------------|------------|---------------------------|--------|------|--------------------------------|-------------|--------------|---------|-------|
|               | B                           | Std. Error | Beta                      |        |      | Lower Bound                    | Upper Bound | Zero-order   | Partial | Part  |
| 1 (Constant)  | 9.807                       | 1.682      |                           | 5.831  | .000 | 6.919                          | 12.696      |              |         |       |
| Nr_members    | .283                        | .314       | .177                      | .900   | .378 | -.257                          | .822        | .348         | .188    | .163  |
| Independencea | -4.680                      | 2.132      | -.433                     | -2.195 | .039 | -8.341                         | -1.018      | -.503        | -.424   | -.397 |

a. Dependent Variable LN\_TA

Source: Author's projection with SPSS

The most significant coefficient is found for the variable size, with the result that the members of the Audit Committee utmost influence Ln (TA).

#### 4. Conclusions

The interaction of the audit committee with other functions of the entity and external factors are significant. In other words, it has become almost universally accepted that the role of audit committees of companies is essentially an issue concerning the performance of the entity. A Code of Best Practice could set out recommendations for establishing functional committees of the Board of Directors. The emphasis here would be on the "Audit Committee", "Compensation Committee" and "Nomination Committee".

To highlight the active role they have the audit committees in corporate governance we have conducted a delineation of the role and importance of audit committees in terms of the literature. The delimitation of the audit committee was followed by an analysis of the correlation between the audit committee and structural indicators.

We find a correlation between the structural indicators and the number of member, structure, independence and experience of the members of the Audit Committee.

The audit committee represents a key element in the corporate governance process. The fight for the integrity of information in the financial statements and confidence in them depends on a balance to be achieved between management pressures, regulator, investors and the public interest.

In conclusion, the Audit Committee's contribution to the efficiency and effectiveness of company is indisputable, as long as the basic principle in its organization (the members of the Audit Committee, adequate experience in financial accounting and auditing, Audit Committee members, structure represented by percentage of non-executive). The audit committee plays a large role in the decision making within a company and, at the same time, it helps the Board of Directors, management, internal audit and external audit.

The study has a number of limitations which provide some interesting opportunities for future research. As with any experimental design, the results are specific to the scenario in the study and they may not be generalisable to other situations.

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