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Upper Echelon Theory and Ethical Behaviour

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Upper Echelon Theory and Ethical Behaviour: an Illustration of the Theory and a Plea for its Extension Towards Ethical Behaviour

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Abstract

This paper gives an illustration of the Upper Echelon Theory and presents arguments for more research on the relationship between upper echelons, strategic choices, and ethical behaviour. Its central theme is: What is the effect of the Sarbanes-Oxley Act implementation on the composition of the Board of Directors of companies that are listed on a U.S. stock exchange? In this research we examined whether the composition of companies' top management teams is influenced by the issue of ethical behaviour. We used a sample of fifty listed companies, containing the members of the Board of Directors registered in the period 2000 - 2005.

The underlying question in this research is whether companies actually change the composition of their Board of Directors because they believe that personal characteristics, such as age, tenure, and specialisation, play an important role in decision making and hence in the degree of their ethical behaviour. In this paper we test three hypotheses. The conclusion is that two of our hypotheses support the Upper Echelon Theory.

Keywords

Upper Echelon Theory, Sarbanes-Oxley Act implementation, ethical behaviour

1. Introduction

The question of ethical behaviour is becoming increasingly relevant to the everyday management of businesses. A wave of bookkeeping scandals has overwhelmed the global marketplace, and has resulted in the now infamous 'internet-bubble'. Because in many of the recent cases the top managements of businesses were involved, and often they were even the initiators, corporate business ethics are now at stake. This urged the U.S. government to come up with additional laws on business practices, of which the Sarbanes-Oxley Act ('Sox') is an example. This act has increased the responsibilities of corporations' top managements (the upper echelons), seeking to induce more ethical behaviour. The implementation of this law has required quite an effort – of governments, companies, and certifying auditors.

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The claim that the upper echelons, or top management teams, have an important role in the way in which large corporations are

directed has been empirically proven by various researchers (e.g. Hall, 1977; Hannan and Freeman, 1977). The Upper Echelon Theory (Hambrick and Mason, 1984) even suggests that the more complex a decision, for example strategic measures, the more important the personal characteristics of the decision makers, such as age, tenure, and specialisation.

This research study was initiated to learn whether companies are aware of the dependence of their ethical behaviour on their top executives, and to extend the empirical evidence for the Upper Echelon Theory towards explaining corporations' ethical behaviour. Earlier studies on this topic focus mainly on proving the existence of the relationships suggested in the theory, by linking personal characteristics with the organization's results or pursued strategies. The studies that match personal characteristics and results have various outcomes; those dealing with personal characteristics and strategy show this relationship quite unanimously. However, this relationship has not been sufficiently illustrated yet and, more important, too little research has been conducted on the relations among the upper echelon, strategic decisions, and ethical behaviour. If we can identify the determinants of a corporation's ethical behaviour, it will be easier to influence them and to find ways to deal with unethical behaviour.

In this research we examined whether companies change the composition of their top management teams in order to deal with the question of ethical behaviour. Since the Sarbanes-Oxley Act was installed in 2002, many companies have had an incentive to evaluate the composition of their upper echelons and work towards more ethical ways of conducting business. In most large corporations the Board of Directors makes the final strategic decisions and can hence be considered as the upper echelon. The following research question can therefore be posed: *What were the effects of the implementation of the Sarbanes-Oxley Act on the composition of the Boards of Directors between 2000 and 2005?* In order to investigate this question, a quantitative research study was set up. We compiled a sample of fifty listed companies, containing the members of the Board of Directors registered within the period 2000 - 2005. Next, we collected data on the board members' gender, age, tenure in the organization, and specialisation. A division was made into the 'pre-Sox era' (2000, 2001, and 2002) and the 'post-Sox era' (2003, 2004, and 2005). After the data collection, the characteristics of the board members in these two periods were compared and analysed.

The outcomes have given rise to the refinement of the Upper Echelon Theory; companies acknowledge the view that changing the characteristics of their upper echelons will enable them to induce more ethical behaviour.

2. Hypotheses

The Upper Echelon Theory suggests that the personal characteristics of the members of the top management team play a far more important role than expected. Factors such as age, tenure within the organization, specialisation, social roots, and a member's financial situation are assumed to affect the decisions made by the top management team. Most studies confirm the relationship between the top management team and company performance or strategy. The relationship between the upper echelon and ethical behaviour has, however, not been investigated yet.

The aim of this research is to give an illustration of the Upper Echelon Theory and, if possible, to expand it into the field of business ethics. It should be emphasised that this study is not focussed on *proving* the existence of the relationship between the upper echelon and ethical behaviour, but on showing that companies *believe* it is there.

The Sarbanes-Oxley Act is based on the COSO-model, which promotes a focus on the general 'control environment', or in other words the corporate culture. Although it would make sense to write an act that follows the advice of the writers of the COSO-model, the Sarbanes-Oxley Act only touches upon the subject of corporate culture and control environment. For the rest, it is a long list of rules and regulations, involving an enormous bureaucracy, while it is not expected to solve the problem. Because earnings management practices do not result in lasting returns, as shown by Dechow et al (1994), companies are assumed to be willing to avoid frauds and bookkeeping scandals. Knowing (or

expecting) that the Sarbanes-Oxley Act as such will not really solve the problem of lacking business ethics, companies have to work pro-actively towards a better solution. They will need to do more than 'just comply' with Sarbanes-Oxley. In fact, they have to try to find ways to improve the control environment, to create a better corporate culture, and to choose strategies that induce rather than discourage ethical behaviour.

The assumption is that companies are aware of the Upper Echelon Theory. In practice, they may not be familiar with its terminology or the reasoning behind it, but they will certainly be aware of the impact of top management teams on decisions, culture, and hence their ethical behaviour. Therefore, they are expected to change the composition of their upper echelons in such a way that it becomes easier to comply with the Sarbanes-Oxley Act, thereby reducing the risk of unethical behaviour. Especially the Boards of Directors of large corporations can be regarded as the upper echelons. The research question can thus be rephrased as follows:

What is the effect of the Sarbanes-Oxley Act implementation on the composition of the Boards of Directors of companies listed on a U.S. stock exchange?

Hambrick and Mason (1984) make 21 propositions concerning top management team characteristics and company performance. These propositions are based on seven categories: age, functional background, corporate influences, education, socio-economic roots, stockholding, and group heterogeneity. This study focuses on only three of these categories. The three most accessible to the researcher have been chosen: age, tenure, and specialisation (functional background).

2.1 Hypothesis 1 – Age

For the category 'age' Hambrick and Mason present the following two propositions:

P 1. Firms with young managers will be more inclined to pursue risky strategies than will firms with older managers.

P 2. Firms with young managers will experience greater growth and variability in profitability from industry averages than will firms with older managers.

They base these propositions upon earlier research of Child (1974) and Hart and Mellons (1970). In these studies youth appears to be associated with corporate growth and the volatility of profitability. This may be explained by arguing that older people have already earned their place in society and will therefore choose a strategy that helps them maintain this position. Younger people, on the other hand, still have to earn their position, which is why they will choose strategies which pay off more, but may also be more risky. In order to illustrate the working of the Upper Echelon Theory, the proposition above will be hypothesised. We have seen that a risky (but high return) strategy puts more pressure on people to perform, which makes them more willing to manipulate the results. Therefore, if companies want to stimulate ethical behaviour, they have to choose strategies that do not encourage the personnel to manipulate. In other words, they have to choose less risky strategies. Hence the following hypothesis can be formulated:

H 1: Since the implementation of the Sarbanes-Oxley Act, the average age in the Board of Directors has become higher.

2.2 Hypothesis 2 – Specialisation

In their 1984 article Hambrick and Mason formulate a number of propositions with respect to managers' functional track. In order to specify their ideas in such a way that they are consistent with other researchers' classifications they distinguish between 'output functions' and 'throughput functions'. These two categories align with, among other ones, the Miles and Snow's (1978) 'strategic typology'. Output functions are functions such as marketing, sales, and R&D. Throughput functions are production, accounting, and engineering. Hambrick and Mason propose the following:

P 3. There will be a positive relationship between the degree of output function experience of top managers and the extent to which the firm emphasizes outputs in its strategy. Indicators of output emphasizes are product innovation, diversification and forward integration.

P 4. There will be a positive relationship between the degree of throughput function experience of top managers and the extent to which the firm emphasizes throughputs in its strategy. Indicators of throughput emphasis are automation, equipment newness and backward integration.

Because product innovation, R&D, and diversification are often associated with risk, we may conclude that ‘output managers’ are less risk averse than ‘throughput managers’. Assuming that firms want to adopt less risky strategies and starting from the standpoint that ‘output managers’ are less risk averse than ‘throughput managers’, it makes sense to expect that firms will choose to replace board members with a functional background in ‘output functions’ by those with a ‘throughput background’. Some more support for this assumption can be found in another study, which shows that large corporations are increasingly dominated by managers with finance or law backgrounds (Hays and Abernathy, 1980). Hambrick and Mason argue that these executives adopt strategies that fit their personal, hands-on, experience. Implementing the Sarbanes-Oxley Act is a complex task, which has an impact on the entire organization. It is basically an administrative game, which means that its implementation is often initiated by the finance department. In addition, to avoid new bookkeeping scandals, the act gives corporations’ leaders more responsibilities concerning their knowledge of the contents of the annual report. These are reasons to expect more individuals in the top management team with a finance or ‘throughput’ background. This results in hypothesis 2:

H 2: the percentage of board members with a background in throughput functions rather than in output functions, will increase.

2.3 Hypothesis 3 – Tenure

For the category ‘tenure’ Hambrick and Mason (1984) put forward the following proposition:

P 10. Years of inside service by top managers will be negatively related to strategic choices involving new terrain, for example product innovation and diversification.

Proposition 10 states that managers brought in from the outside are more inclined to choose strategies that involve new terrains, such as for example diversification and product innovation. This proposition can be interpreted as suggesting that external managers may choose more risky strategies than managers from within the company. Considering that companies seek to adjust their top management teams in such a way that less risky strategies are pursued, they are expected to replace board members with a short organizational tenure by those with a longer tenure within the organization. This results in hypothesis 3:

H 3: Since the implementation of the Sarbanes-Oxley Act, the length of the board members’ tenures within the organization has increased.

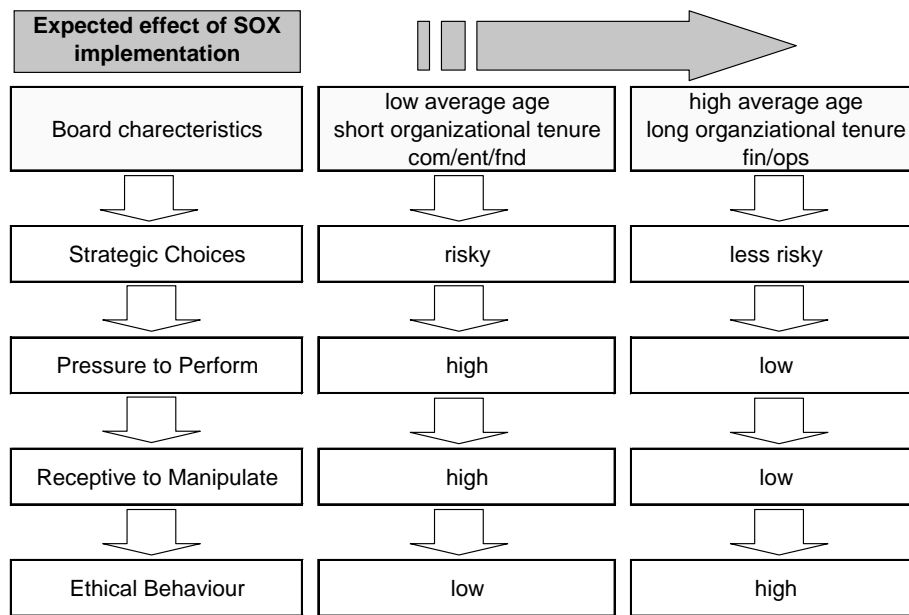
2.4 Research Model

Based on the paragraphs above the following statements can be made:

- a lower age is related to more risky strategies than a higher age;
- throughput managers are more risk averse than output managers;
- a longer organizational tenure is associated with less risky strategies.

In addition, strategy and ethical behaviour are considered to be related through a process of target setting and remunerations schemes. Risky strategies often yield higher returns than more careful and conservative strategies. From a personal point of view, however, negative news or disappointing results are more difficult to report and can also be more costly.

In the following picture the above line of reasoning is summarised.



Picture 1: Summary of Theories

The left column depicts the ideas presented in previous research studies: the Board of Directors makes strategic choices. These choices may or may not create an (excessive) pressure to perform (e.g. a very risky but high return strategy increases the pressure to perform). A high pressure to perform makes managers more willing to 'cook the books', which undermines their willingness to operate in an ethical manner.

The middle and right column show the outcomes of earlier research: a low average age, a short organizational tenure, and a commercial / entrepreneurial background lead to more risky strategies than high age, long organizational tenure, and financial / operational backgrounds. High risk strategies lead to a higher level of pressure to perform, which makes managers more willing to manipulate the results. These strategies have a negative effect on companies' ethical behaviour. Low risk strategies lead to less pressure to perform, which makes managers less inclined to manipulate. These strategies have a positive effect on a company's ethical behaviour. The horizontal arrow at the top of the picture symbolises the core of this research:

Has the introduction of the Sarbanes-Oxley Act led to a shift in the composition of the Boards of Directors?

Testing the hypotheses presented in the paragraphs above will provide insight into the working of the Upper Echelon Theory. The idea is that companies use this theory (albeit unconsciously) to guide their corporate strategies which determine the general direction in which they want to lead their companies. The Sarbanes-Oxley Act seeks to induce more ethical behaviour and has as such been an incentive to companies to adjust their corporate culture and/or control environment. By showing that the upper echelons from before Sarbanes-Oxley have a different composition than those after its implementation, it can be proven that companies not only use their upper echelons to impact their corporate strategies but also to induce more ethical behaviour. This research is explicitly aimed at the Board of Directors as a whole rather than at the individual board members. The hypotheses and statements made relate to the group and not to the separate group members. It is not suggested that, for example, younger managers have less integrity or are less trustworthy than older managers. The statements here concern the composition of the top management team, which says nothing about individual qualities. What is meant is that top management teams with a relatively low age will be more likely to choose risky strategies, thereby putting more pressure on the issue of ethics. Therefore, the Upper Echelon Theory may not only apply to strategic decision making but also to a company's ethical behaviour.

We tested our sample by studying the data on the Boards of Directors of companies with respect to the Sarbanes-Oxley Act and by calculating the measures as explained in the next paragraphs. In general, the choice between accepting or rejecting hypotheses requires some significance calculations. For various reasons, however, we did not include these calculations in this paper. Although they have been planned they not been done so far. The hypotheses can only be accepted if both calculation results yield the same results. This method may not be as refined as statistical tests, but will still give a reliable impression of the viability of the hypotheses.

3. Research Method

The following paragraphs give an outline of the methodology of the research. First, the population is defined, followed by a paragraph about the sample selection. Then, the time horizon is formulated and the data collection methods discussed.

3.1 Population

The American Federal Bureau of Investigation (FBI) is engaged, among many other tasks, in localising and solving a variety of frauds. The Bureau has not observed any major changes in the trends in corporate frauds. The most salient scandals were reported in 'neweconomy' branches such as ICT, telecommunications, and privatised industries (utilities). Because we assume that these corporations will be motivated to reduce the risk of similar malpractices in the future, our research is focussed on the above mentioned three branches. The assumption is that as long as firms have not been engaged in any major public scandals, they have no incentive to make changes to their upper echelons.

Furthermore, to all companies listed on the New York Stock Exchange (NYSE) as well as to other U.S. stock markets applies that they have to conduct their policies conform the Sarbanes-Oxley Act. Nasdaq, where many of the ICT sector companies are listed, is considered the primary stock market for technology firms. Our research population, therefore, includes all firms in the ICT, telecommunications, and utilities branches which are listed on either the NYSE or Nasdaq. From the websites of the three branches in question (www.nyse.com and www.nasdaq.com) a list of companies was downloaded. Unfortunately, the Nasdaq and the NYSE do not use the same industry classification methods, so on some points we had to make a selection before adding the two lists together. The NYSE uses the Industry Classification Benchmark (ICB) to classify listed companies.

3.2 Sample

For statistical calculations to be valid a sample has to contain at least thirty records. So a sample of fifty records was considered to be well enough for the statistical calculations to make sense and keep the research concise at the same time. The table below shows the size of the population and the sample per sector.

Industry	Population	% split	Sample
ICT	175	38%	19
Telecommunications	61	13%	7
Utilities	221	48%	24
Grand Total	457	100%	50

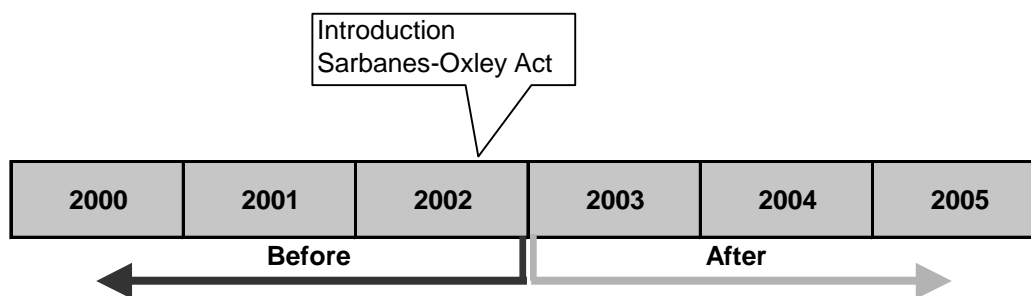
Table 1: Sample Sizes

The list of companies was saved in Microsoft Excel and the names of the companies were hidden, leaving only the stock exchange symbol visible. The list was first sorted on sector and then alphabetically on symbol. Per sector companies were randomly chosen by scrolling down and

selecting them one at a time. Next, a list was made of the selected companies and a sanity check was done to control for doubles or other mistakes.

3.3 Time horizon

This research study deals with the question what effects the Sarbanes-Oxley Act implementation has had on the composition of companies' Boards of Directors. The Sarbanes-Oxley Act was introduced in 2002, which marks the breaking point of the time horizon. From this moment on companies had to operate in compliance with this law, which is why they started taking the necessary steps towards more transparency and corporate governance. In order to get an impression of the changes in the Board of Directors as a consequence of the introduction of the Sarbanes-Oxley Act, we had to compare two periods; a number of years before and a number of years after its introduction.



Picture 2: Time Line

In order to keep the research concise, a period of three years before and three years after was chosen while controlling for late filers (companies which complied in 2005 instead of 2004). Furthermore, it was assumed that changes in the Board of Directors take place gradually. In addition, for stability's sake we expected companies not to replace a significant number of board members at a time when it was not necessary. Therefore, we considered a period of three years (before and after) as the minimum suitable time frame in which to conduct our investigation.

3.4 Data collection

From the annual reports we collected and registered all members of the Board of Directors in a MS Excel database. The result was a sample of 50 companies with an average of 10 board members, containing at least 605 directors. Because the time span of the research covered a six-year period and there was a 'director turnover rate', the entire database consisted of 797 persons.

Hambrick and Mason's Upper Echelon Theory provided a theoretical base for our research into the management characteristics and strategic choices. At this point, however, we still had to prove the theory through empirical research. Various research has been conducted on this topic. Most studies examine more or less the same personal characteristics. For example, as already mentioned, Hambrick and Mason (1984) mention age, specialisation, tenure within the organization, and social roots as potential interesting factors to investigate. Wiersema and Bantel (1992) look at age, tenure within the organization, specialisation and education level, the latter serving as a proxy for social roots. Hence, it makes sense to focus on these characteristics.

Unfortunately however, not every company includes these indicators concerning their board members in their annual reports; some only include their names. Wiersema and Bantel (1992) use Dun & Bradstreet's 'Reference Book of Corporate Management's' as their main source of biographical information. It is now available via www.hoovers.com.

3.5 Measures

We used the following three characteristics: age, tenure, and specialisation.

Age This refers to the age of the person in question in the year 2006, the year in which the research was conducted. By focussing on a person's age in one particular year, we could control for the fact that each year that people occur in the sample, they gain one year in age, which would impact the calculations.

Tenure within the organization – refers to the number of years that a person has been working for the company in question. Many board members have no tenure within the organization. They are appointed from outside and have other jobs in other companies. They are considered 'external'. Directors with zero years of tenure are attracted externally, and their function within the company starts from the moment they are appointed.

Specialisation – concerning specialisation we were particularly interested in financial specialists. As already explained, we started from the assumption that companies preferably choose board members who are financially educated.

3.6 Validity

By using the approach as stated above a reasonable level of validity could be ensured. The data used were archival and objective. Only 'professional specialisation' was more or less subjective and in some cases slightly ambiguous. The other measures, age and tenure, were hard and could be interpreted in only one way. Therefore, the reliability of this research was good in that the same results could be expected under the same circumstances.

The question whether or not companies choose to adjust the composition of their boards should in fact be interpreted as whether these companies *believe* there is a relationship between upper echelons, strategic choices, and ethical behaviour. In this respect, the present moment – a number of years after the implementation of the Sarbanes-Oxley Act – would be an excellent time to study this subject. By law firms are now forced to improve their business ethics, which has implications in all layers of the company, but especially for the top management teams. It is not likely that significant changes in companies' upper echelons after the Sarbanes-Oxley implementation would occur for no reason. Therefore, the occurrence of these changes may in fact be a good indicator of the way in which corporations try to find the best practice for raising the level of their business ethics.

During the process of data gathering, we found another factor which has an impact on the composition of the Board of Directors. It appeared that mergers and acquisitions were also an important reason for companies to adjust the composition of their Board of Directors. Therefore, we cannot be entirely sure whether the cause of the changes in the Board of Directors was in fact the Sarbanes-Oxley Act rather than something else. On the other hand, even if mergers and acquisitions had played a role, companies would have still had the choice of which board members to move forward – younger, less risk averse types, or elder, more conservative persons. So also in this case internal validity would still hold.

The population of the research was restricted to companies active in ICT, telecommunications and utilities branches, because in these industries reporting and bookkeeping incidents had occurred the most. We expected these companies to have a real incentive to make changes in their board structure. Companies which are doing well, which have had no major bookkeeping issues, and no negative press coverage, have no need to change their current ways of doing business. Therefore, companies which encountered problems in the past or have other reasons to reconsider their board structure have the strongest external validity.

4. Findings

In the following paragraphs the results are explained. For the assessment of the hypotheses the results were either considered to be significant, or they were evaluated. The sample contained some 797 individuals. Given this number of records, we considered the sample amply large enough to make some proper statistical calculations. However, as our focus was on the *changes* in the composition of the Board of Directors, we did not only need to look at the sample as a whole but also at the mutants. And when doing so, the sample appeared too small. When this is the case, the standard error becomes very large and the significance calculations rather impractical.

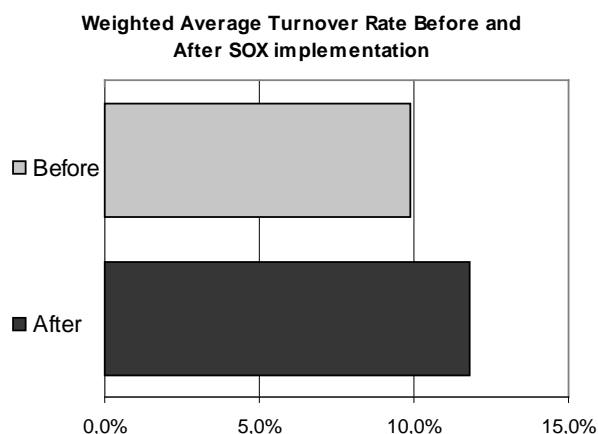
4.1 General metrics

The population counted 457 companies and the sample 50 companies. Each company had on average 10 board members, while the composition of their boards changed over the years. Therefore, the database provided information about 797 board members, active in three branches. The average Board of Directors counted 10.2 members. This number was stable during the years of our sample. Looking at the separate industries, however, we found that the size of the Boards of the companies in the utilities and telecommunications sectors decreased slightly, whereas the size of the Boards of companies in the ICT sector increased. This was possibly due to the fact that the average size of the Boards of Directors in the ICT sector was smaller than in the other two sectors.

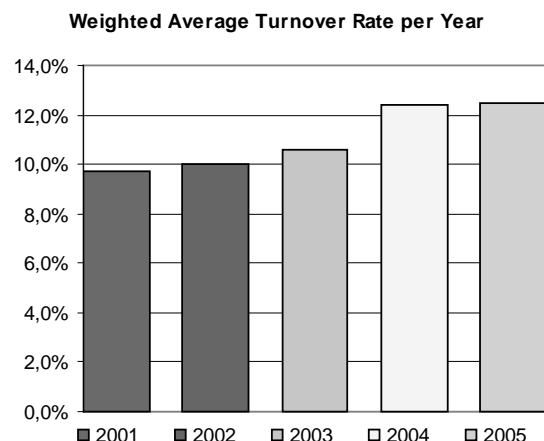
The ‘board-turnover-rate’ was also calculated. The formula used here was the following:

$$\frac{\text{Number of board members leaving in a certain year}}{\text{Total number of board members in that year}}$$

The two graphs (graph 1 and 2) depict the results. Graph 1 shows the weighted average board-turnover-rate before and after the Sarbanes-Oxley implementation. We see that the turnover rate has increased since the introduction of the Sarbanes-Oxley Act. When examining the data on a yearly basis (graph 2), we observe that the turnover rate has become higher over the years. It did not peak around 2002 and 2003 (introduction of the Sarbanes-Oxley Act) but instead rose during the whole period, from 9.7% in 2001 to 12.5% in 2005. A recent study by consulting agency Challenger, Gray & Christmas confirms this finding.



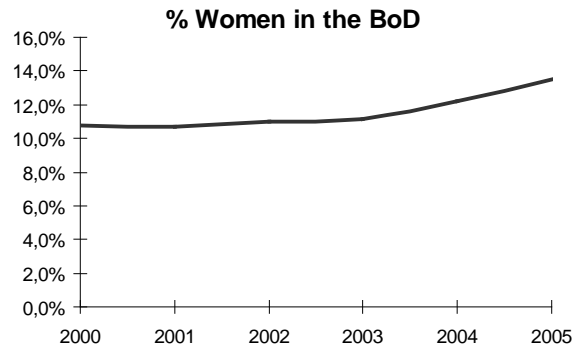
Graph 1: Turnover Rates Before and After Sox Implementation



Graph 2: Yearly Turnover Rates

Although not hypothesised as one of the personal characteristics, gender was examined as well. We see that during the sample period the number of women in the Board of Directors rose. Whether this has to do with the Sarbanes-Oxley implementation is not clear. Looking at the graph below, however, we do notice a bigger increase in women in the Board since 2003 – the year after the Sarbanes-Oxley

Act was installed. The discussion about emancipation and women’s role in society is much older than that about the implementation of the Sarbanes-Oxley Act. Therefore, the sudden larger increase in female directors cannot be explained by ‘regular’ developments in the emancipation issue. At the same time, this does not necessarily mean that the implementation of the Sarbanes-Oxley Act is the cause of the increase. Also other factors may play a role. However, these factors are considered to be outside the scope of this study.



Graph 3: Percentage of Women in the Board

4.2 Hypothesis 1 - Age

Hypothesis 1: Since the implementation of the Sarbanes-Oxley Act the average age in the Board of Directors has become higher.

From the table on the next page it becomes clear that the average age of the board members rose from 58.1 years in 2000 to 60.2 years in 2005. This can be explained by the fact that people become older nowadays and might not need to be replaced. However, the turnover rate *increased* during the entire period, suggesting that board members are replaced more often rather than less often. The higher average age suggests that they are replaced by relatively older colleagues. There were no large differences among the three industries.

Period	2000	2001	2002	2003	2004	2005	Before	After
Nr of records	405	428	439	446	468	490	1.272	1.404
Avg Age	58,1	58,6	59,0	59,5	59,7	60,2	58,6	59,8

Table 2: Average Age

When comparing the groups of individuals who were discharged from the Board of Directors with those who were taken on, we see that the average of the leavers is 66 years and the average age of the new entrants 58 years. This may be explained by the retirement of older board members.

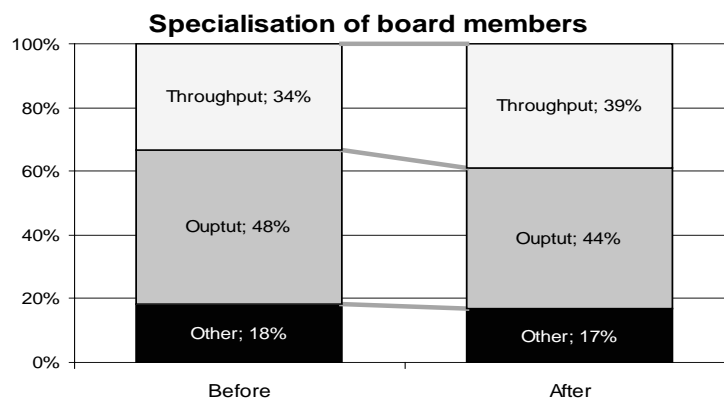
Combining both findings – a higher turnover rate and a lower average age of newcomers – we would expect a lower average age in the most recent years. In this period, however, we see a higher average age in the boards. This indicates that older individuals maintain their positions longer, whereas younger ones are being replaced.

A double check can be made by comparing the average age of those who left the board in 2001 (the first year of leavers) with those who left in 2005. Leavers in 2001 have an average age of 66 years, whereas in 2005 their average age is 61, which is 5 years younger. This finding hence supports hypothesis 1, according to which the board is expected to have a higher average age. It appears that companies do in fact replace relatively younger board members more often than older ones.

4.3 Hypothesis 2

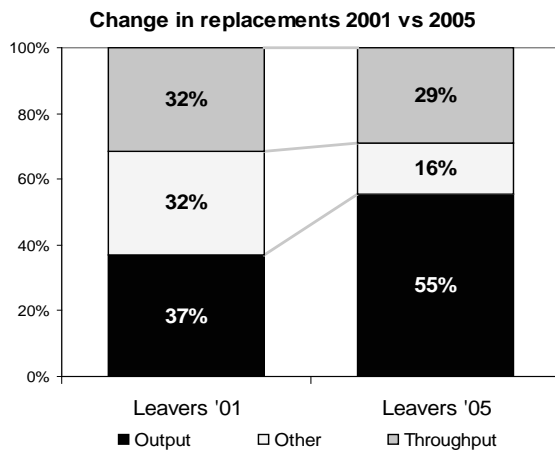
H2: the percentage of board members with a background in throughput functions rather than in output functions, will increase. First of all, the general composition of the Boards of Directors before and after Sarbanes-Oxley implementation was examined. Graph 4 depicts the results of the analysis. In the graph a clear change is visible between the years 2001 and 2005. The percentage of board members with a background in an ‘other’ functional area remained approximately the same. The percentage of individuals with experience in output functions, however, decreased from 48% before the Sarbanes-Oxley implementation to 44% afterwards. The percentage of board members with a throughput background, on the other hand, increased from 34% to 39%.

Because the percentage of board members who worked in ‘other’ fields remained more or less the same, we can conclude that companies actually chose to replace output managers by throughput managers.

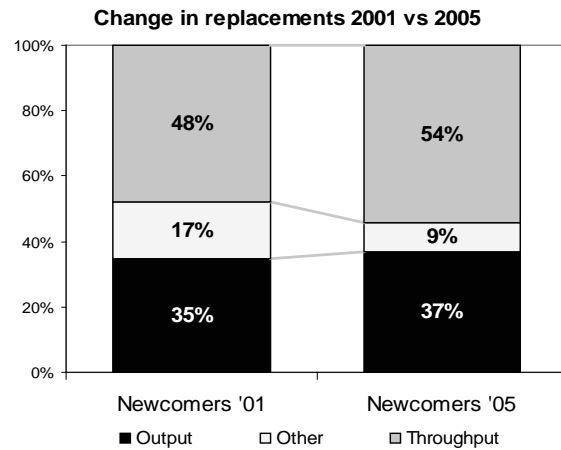


Graph 4: Changes in Specialisation Before and After the SOX-implementation

When making a cross check, we learned more about this finding. We compared the leavers and the newcomers in 2001 and 2005. Graphs 5a and 5b show the results. When comparing the leavers in 2001 with those in 2005, we see that in 2001 37% of the leavers had an output background. In 2005 this percentage had increased to 55%. So, after the implementation of the Sarbanes-Oxley Act, more than half of the replacements concerned individuals with a background in output functions, i.e. marketing managers, sales managers, entrepreneurs, and founders. In addition, especially board members with ‘other’ functional backgrounds were less often replaced. A particular reason for this has not been found so far. Finally, throughput managers were slightly less often replaced in 2005 than in 2001.



Graph 5a: Comparison of Leavers in 2001 and 2005



Graph 5b: Comparison of Newcomers in 2001 and 2005

In graph 5b, which compares the newcomers, an opposite shift is visible. In 2001 35% of the newly installed board members had an output background compared to 37% in 2005 - approximately the same. For throughput functions these percentages were 48% and 54% respectively.

So, combining both graphs, it can be concluded that in 2001 the leavers consisted of 37% output managers who were replaced by 35% output newcomers in that year. In other words: a replacement by persons with similar backgrounds. In 2005, however, we see that 55% of the output leavers were replaced by only 37% output newcomers. For throughput managers the opposite holds: 29% throughput leavers and 54% throughput newcomers.

The cross checks also indicate that companies chose to replace output managers by throughput managers after the implementation of the Sarbanes-Oxley Act, whereas they did not do this before its introduction. Hypothesis 2 is therefore supported.

4.4 Hypothesis 3

Hypothesis 3: Since the implementation of the Sarbanes-Oxley Act, the length of the board members' tenures within the organization has increased.

Practically, this can either mean that companies more often choose new board members from within the organization than external directors, or that board members internally chosen remain in the board for a longer period of time.

First, the second option will be investigated. In the table below the average tenure within the organization (Ten-O) is given for the three branches:

Average Ten-O	2000	2001	2002	2003	2004	2005	Before	After
ICT	3,9	4,0	3,7	3,9	3,9	4,0	3,9	4,0
Telco	1,2	1,3	1,2	1,5	1,7	1,9	1,3	1,7
Utilities	1,5	1,8	1,5	1,4	1,7	1,8	1,6	1,6
All branches	2,2	2,5	2,2	2,2	2,5	2,5	2,3	2,4

Table 3: Average Tenure within the Organization

The average tenure within the organization increased from 2.2 years in 2000 to 2.5 years in 2005. When comparing the periods before and after the Sarbanes-Oxley implementation, we can see that the organizational tenure increased from 2.3 to 2.4 years. This increase, however, may be too small to be significant.

It is interesting to observe that the organizational tenures are longer in the ICT sector than in the other two branches. This may be explained by the fact that many companies in the ICT sector have only existed for a relatively short period of time (compared to the other sectors). Often, the ICT-companies' founders or executives are still highly active in the organization as opposed to those in the older branches.

The telecommunications industry shows a larger increase in organizational tenure than the other two branches. This may be explained by the fact that the telecommunications sector has been subject to a trend of take-overs in the recent years. In addition, after the implementation of the Sarbanes-Oxley Act companies appear to have increasingly appointed directors from within the company. Because the telecommunications sector is older than, for example, the ICT branch, the tenures can be longer than those in the ICT branch. This possibility, however, has not been investigated in full detail yet.

With respect to the option of appointing external board members, the following data emerged:

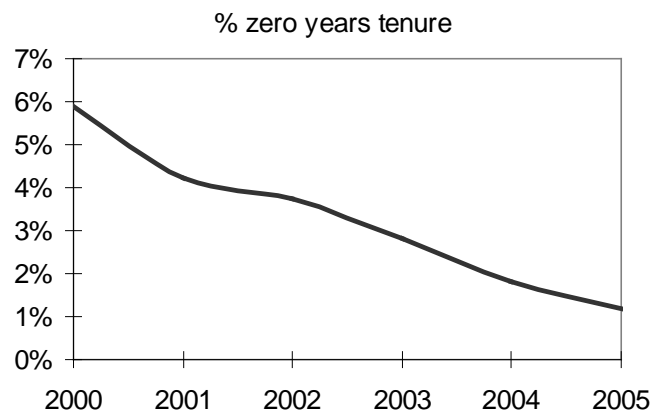
% External members	2000	2001	2002	2003	2004	2005	Before	After
ICT	74%	73%	75%	75%	75%	75%	74%	75%
Telco	72%	73%	72%	75%	79%	84%	72%	79%
Utilities	83%	85%	86%	86%	86%	86%	84%	86%
All branches	78%	79%	80%	81%	81%	82%	79%	81%

Table 4: Percentage of External Board Members

The number of external board members (members of the Board of Directors that do not work in the company) *increased* over time. This is in contradistinction with hypothesis 3, according to which a decrease in external directors was expected rather than an increase. A possible explanation may be given by a study of Beekes, Pope and Young (2004). They found that companies with Boards composed of a relatively large number of external directors are less conservative in recognising bad news on a timely basis. These companies may realise that bringing bad news is easier for outsiders than for insiders, which explains their preference for a larger proportion of external directors in their Boards.

The above suggests that the small increase in organizational tenure is intrinsic, i.e: staff members working in the organization for a relatively long period of time were not replaced, which hence added one year of experience each year. Board members working a relatively short time for the organization were replaced more often than members with a longer tenure. But they were replaced by external colleagues rather than by staff members from within the organization.

A possible explanation is given in graph 6. In the year 2000, it was more common for companies to appoint new board members who would start working within the organization at the same time. These newcomers were external CEOs and Presidents who had no company history. From the above we can draw the conclusion that these members were replaced more often than their fellow CEOs with a longer tenure within the organization. Companies appear to have learned from appointing outsiders; they have become more reluctant in this respect.



Graph 6: Percentage of Board Members with Zero Years of Tenure

After conducting a cross-check other results emerged. We compared the leavers and the newcomers in the years 2001 and 2005. The table below shows the average tenures in both periods as well as the percentages of the directors appointed from outside the company.

Average Tenure	Years, External	
Leavers 2001	7,3	91%
Newcomers 2001	9,6	74%
Variance	2,3	
Leavers 2005	9,8	89%
Newcomers 2005	13,5	86%
Variance	3,8	

Table 5: Average Tenure of Leavers and Newcomers in 2001 and 2005

As these findings indicate, companies did in fact opt for replacing directors with a shorter tenure by those with a longer tenure. They had done so already before the implementation of the Sarbanes-Oxley Act and continued to do so afterwards, although the variance in the length of the tenures had increased by 2005. Because the differences are quite small, the effects of the replacements may be less significant. The finding that companies more often choose to replace directors by externals, is also confirmed.

Summarising the above, we conclude that the average tenure within an organization has increased only slightly over the years. A comparison of leavers and newcomers shows that although companies replace shorter tenure directors with longer tenure directors, they do not do this with great frequency. In addition, these companies also replace leavers more often by externals. This finding is not in line with our expectations. Therefore, insufficient proof can be found to support hypothesis 3.

4.5 Summary of our findings and conclusion

The table below summarises the findings of the calculations.

Hypothesis	Subject	Calc. 1	Calc. 2	Accept/Reject
1	Age increase	Yes	Yes	Accept
2	More throughput functions	Yes	Yes	Accept
3	Longer tenure	No	No	Reject

Table 6: Summary of Findings

We can conclude that companies' Boards of Directors are generally composed of relatively older individuals of whom most have a throughput background rather than an output background. No sufficient support, however, was found which indicates that companies prefer to choose directors with a longer tenure.

5. Discussion and Conclusion

In the following paragraphs the results are discussed. We will ask ourselves whether the research question can be justified, and what we have learned. Next, the limitations of the research are dealt with, and the relevance of this study is explained. After that we will point to the implications for the Upper Echelon Theory. This part serves as an impulse for more discussion and theory building. Finally, some suggestions are made for future research on this topic.

5.1 Discussion of the results

In order to enable businesses to cope better with modern organizational practices, the Sarbanes-Oxley Act was implemented. One of the key elements of this act is ethical behaviour. Especially this element

has increased the degree of responsibility in top management positions. Directors and presidents are now personally liable for the way in which their companies operate.

The Upper Echelon Theory suggests that the personal characteristics of executives influence the decisions that they make. The empirical support for this theory is, however, neither conclusive nor uniform.

One of this theory's shortcomings is that it focusses on strategic decision making. Nowadays, however, crucial issues are topics such as ethical behaviour and corporate governance, which implies that a focus on strategic decision making alone is no longer realistic. In the current context it is more important to acquire knowledge about the causes of (non-) ethical behaviour, so that scandals such as the Enron case can be prevented in the future. A relationship between an organization's upper echelon and its ethical behaviour is expected to exist in two ways: via strategic decisions and via corporate culture. So next to finding more empirical evidence for the Upper Echelon theory, another goal of this study was to find out whether firms adjust their upper echelons in order to induce more ethical behaviour.

The research question was addressed by taking a sample of fifty companies in the ICT, telecommunications, and utilities sector, and comparing the composition of their Boards of Directors before and after the implementation of the Sarbanes-Oxley Act.

Based on earlier research we expected that older executives with a long tenure within the organization and certain specialisations would tend to choose less risky strategies, thereby focussing more on business ethics. Younger executives, on the other hand, with a short organizational tenure and different specialisations were assumed to choose more risky strategies, thereby putting more pressure on the company's business ethics.

The first two hypotheses could be accepted, whereas the third hypothesis showed a controversial movement and had to be rejected. As indicated by earlier research, this may be explained by the finding that external directors appear to be less conservative in disclosing bad news on a timely basis (because they are less attached to the company). Although this paper does not yet include statistical calculations, there are indications that the research question holds: companies did in fact adjust their top management teams after the introduction of the Sarbanes-Oxley Act. This would imply that firms either consciously or unconsciously acknowledge the working of the Upper Echelon theory and use it to structure their business policies. It means that some additional proof has been found to support the Upper Echelon Theory. And although these initial results are still only indicators of possible outcomes, they are encouraging.

5.2 Limitations

There are some limitations to this research. First of all, we restricted our investigation to companies in three branches. These industries were chosen because they shared a history of incidents, giving them an incentive to change their boards. If we had included branches with no history of problems, no significant findings would have probably resulted.

A second limitation is that we only addressed companies which had their annual reports readily available on the internet. In this way, we did not have to wait for paper copies to be sent to us. This approach, however, resulted in a sample characterised by companies which are well organised in this respect, thereby excluding firms which have problems with their annual reports. This may have resulted in a somewhat untrue (too favourable) representation of the research population, which flattened the results.

A third limitation is that no control values were calculated in this research. Apart from the Sarbanes-Oxley Act, another important factor was found which influences the composition of the board of directors, namely 'mergers and acquisitions'. Often, the boards of the merging companies are joined together for a number of years. During this period certain members leave, while others remain in the board. There are several reasons why this factor was not controlled. First of all, it became apparent

quite late in the research process. Second, building in this control would have meant re-conducting a great deal of research, which is beyond the scope of a university thesis. Most importantly, however: the three branches investigated in this study are characterised by high rates of mergers and acquisitions. Controlling for this factor would have eliminated too many companies in the sample.

5.3 Relevance and Discussion

We have established that the implementation of the Sarbanes-Oxley Act has had an impact on the way in which companies choose their upper echelons. Companies take the Sarbanes-Oxley Act seriously and they believe that ethical behaviour can at least be partly influenced by changing their upper echelons. Companies consider the composition of the Board of Directors as a tool to help them comply with the Sarbanes-Oxley Act.

According to Hambrick and Mason's Upper Echelon Theory companies recognise that the personal characteristics of the members of their upper echelons have an impact on their strategic decisions. Because certain changes are visible between the composition of their upper echelons before and after the Sarbanes-Oxley implementation, involving a focus on ethical behaviour rather than on business strategy, we may conclude that companies do not only believe that their upper echelons define their corporate strategies, but also that they can influence their ethical behaviour.

5.4 Future Research

The relationship between upper echelons, strategic decisions, and ethical behaviour, of which we now know that companies believe it exists, should be further investigated. The questions whether this relationship does in fact exist or whether it is just a perception, through which processes it is determined, and what its moderating factors are, still need to be answered.

Now that we have established that the companies in the three sectors which we studied show a tendency to change the composition of their upper echelons, it would be interesting to learn whether their performance rates will increase as a result of this measure, whether they will choose less risky strategies, and whether they will be less susceptible to scandals.

Another point of interest would be the movement towards more women in the Board of Directors. This study did not provide an explanation for this observation. Whether it forms part of the regular emancipation process or whether women are perceived as more ethical still needs to be investigated.

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