

# CEO Characteristics and their Impact on the Performance of U.S.-American S&P 500 Firms

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## **BACHELOR'S THESIS**

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### **Abstract**

A CEO is capable of steering a company towards successful financial years however no two Chief Executive Officers are alike. CEOs have diverse background and demographic characteristics that might result in a different strategic decision-making approach that, in turn, could affect the firm performance.

The aim of the study was to examine how strong the impact of a CEO's executive age, executive experience and executive busyness on the firm performance in the United States of America is. Additionally, the study should state whether investors should take a CEO's characteristics into consideration when evaluating an investment option.

The theoretical framework is based on online articles in scientific journals, scientific studies, websites that deal with financial and economic issues and encyclopedias. The empirical part was based on one specific study and had a closer look at four S&P 500 companies. To conduct the empirical part, the financial websites Forbes and Reuters as well as the homepages of the companies and financial information from the company's annual reports were incorporated.

The result of the study is the statement that a CEO's executive age, executive experience and executive busyness has a rather weak impact on the performance of firms operating within the United States of America. This statement is especially backed up by the empirical part, which showed that other factors have a more significant impact on the firm performance than a CEO's characteristics. Moreover, the study results in saying that investors should not necessarily keep a CEO's characteristics in mind when evaluating an investment option.

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# 1 Introduction

According to the Oxford Advanced Learner's Dictionary (w.y.), a CEO (Chief Executive Officer) is the person with the highest rank in a business company. In other words, the Chief Executive Officer takes the highest position in corporate management and is not only responsible for the operations of the business company, but also for the present and future firm performance (Harymawan & Nasih & Ratri & Nowland 2019, 1-9).

A CEO is capable of steering a company towards successful financial years, ensuring a high reputation of the firm in the business world. However, there is also a downside of bearing all the responsibility for a company. Even if the CEO's abilities have contributed to the success of the company, external economic factors can influence the firm's operations negatively and the CEO is still hold accountable for the failure.

No two Chief Executive Officers are alike and Shen (2019, 1-25) confirms this fact by stating that CEOs have diverse background and demographic characteristics that might result in a different strategic decision-making approach that, in turn, could affect the firm performance. A CEO's characteristics might provide important information for stakeholders and allow them to evaluate whether investing in the company, for instance, would be of value. It is important to mention that by CEO characteristics, one does not mean the general character attributes that define every person individually, but rather the CEO's gender, origin, education, age, experience and busyness.

As mentioned before, a CEO's characteristics might affect the firm performance positively or negatively. However, it is not possible to generally state that there is a relationship between a CEO's characteristics and the firm performance. Different characteristics, firm performance indicators and other factors, such as the country where the firm operates in, have to be taken into account in order to be able to examine whether there is a relationship.

## 1.1 Purpose

Various studies have already examined the relationship between certain CEO characteristics and the firm performance in the United States of America. One of these studies, which is the foundation for the theoretical and empirical part of this bachelor's thesis, reports a relationship between a CEO's executive age, executive experience and executive busyness and the firm performance in the U.S. It is, however, not apparent how strong the impact of the mentioned CEO characteristics on the firm's performance truly is and how much importance one should eventually attach to the reported relationship. The purpose of this

bachelor's thesis is therefore to examine how strongly a CEO's executive age, executive experience and executive busyness impacts the performance of U.S.-American firms. The impact and how strong it truly is, will be assessed by analyzing one specific study, which reports a relationship between a CEO's executive age, executive experience and executive busyness and the firm performance in the U.S. and by conducting the empirical part. Additionally, this thesis should provide insights on whether one specific stakeholder group, namely the investors, should attach importance to the executive age, executive experience and executive busyness of the current CEO when evaluating an investment option or whether they should disregard the characteristics and the reported relationship. Furthermore, the thesis should provide information on the three chosen CEO characteristics and on possible firm performance measurements, namely profitability and investment ratios as well as other performance ratios.

## **1.2 Research questions**

The bachelor's thesis deals with three research questions that are to be thoroughly discussed in the theoretical and empirical part.

The main research question is:

1. How strong is the impact of a CEO's executive age, executive experience and executive busyness on the firm performance in the United States?

The main research question will be answered by incorporating one particular study and analyzing its findings regarding the existing relationship. It is necessary to first analyze the relationship between the chosen CEO characteristics and firm performance in the U.S., before being able to examine how strong the impact is. The empirical part should contribute to the clarification of the main research question. If the empirical part provides other results than the study, the reasons for the deviating results should be discussed. To answer the main research question, the findings from both the study and the empirical part will be used.

The two other research questions are sub-questions that provide important information for answering the main research question:

2. What is meant by the executive age, executive experience and executive busyness of a CEO?

This research question should provide general information on the three mentioned characteristics, so that a foundation is laid to later understand the relationship and the impact of these characteristics on firm performance and to be able to follow the empirical part.

### 3. What is meant by firm performance and how can it be measured?

Since this bachelor's thesis is examining how strong the influence of certain CEO characteristics on firm performance truly is, it is essential to explain the term "firm performance" in the first place. Furthermore, possible firm performance measurements should be introduced and explained. The firm performance indicators for this thesis are Tobin's Q (investment ratio), ROA (Return on Assets, profitability ratio) as well as Leverage and Sales Growth (other performance ratios). Tobin's Q and ROA are the main performance indicators, whereas Leverage and Sales Growth play a subordinate role. Tobin's Q and ROA are used as dependent variables in the academic study that examines the relationship between CEO characteristics and firm performance, i.e. Tobin's Q and ROA represent firm performance. Leverage and Sales Growth influence Tobin's Q and/or ROA and are used as control variables, i.e. they influence firm performance, but they do not represent firm performance.

## 1.3 Framework

The three chosen CEO characteristics, the three firm performance measurement categories and the analysis of the relationship and the impact of the three characteristics on firm performance make up the theoretical framework for this bachelor's thesis. This information, classified as secondary data, was gathered from online articles in scientific journals, scientific studies, websites that deal with financial and economic issues, encyclopedias and one master's thesis. The mentioned sources were primarily used to deal with the CEO characteristics and firm performance measurement categories since these provide trustworthy, but more general information for answering the two sub-questions. The relationship and the impact, on the other hand, were analyzed by using solely one particular study. The analysis of the relationship and the impact of the chosen characteristics on the firm performance indicators are at the same time the scientific and theoretical answer of the main research question and the foundation for the empirical part. It was important to focus on only one study and its examination of the relationship and impact since it allows one to analyze the findings in depth. Incorporating several studies would have led to a more general analysis of the relationship and the impact as every study has its own main focus and



approach. Moreover, the findings of the chosen study were used to conduct the empirical part, which would not have been possible with various findings of different studies.

The empirical part was conducted to test how strong the impact of the chosen CEO characteristics on firm performance truly is. The test consisted of four U.S.-American S&P 500 companies and their current CEOs. Information about the company's business activities and its CEO were taken from the financial websites Forbes and Reuters as well as Bloomberg and the homepages of the companies. The firm performance indicators were calculated and analyzed by using the financial information from the company's annual reports. Annual reports are published by the company itself and approved by an external auditor, which ensures the highest possible reliability of these numbers. If unusual developments in financial numbers could not be explained with the information of the annual reports, online articles, either published by the company itself or by acknowledged business news providers, were incorporated. The information for the empirical part can only be classified as secondary data. It was not possible to provide primary data since American CEOs have a very high rank in the business world, which makes it impossible to conduct an interview, for instance.

## **1.4 Goals**

The main goal of this bachelor's thesis is to find out how strongly a CEO's executive age, executive experience and executive busyness truly impacts the performance of U.S.-American companies. Moreover, this thesis should state whether investors should keep the findings regarding the relationship in mind when evaluating a firm and its performance. When it comes to the empirical part, it is interesting to see if the knowledge from the theoretical part can be applied in such a way that the empirical result confirms the stated theory.

## **1.5 Limitations**

As mentioned earlier, it is not possible to examine the relationship of a CEO's characteristics and firm performance without including other factors, like the country where the company is operating in. To be able to examine the relationship and how strong the impact of certain CEO characteristics on firm performance is, this thesis will only focus on the United States of America. Regarding the theoretical part, only the three CEO characteristics executive age, executive experience and executive busyness will be introduced. There are studies that have analyzed the relationship between these characteristics and firm performance and that

provide the statistical prove necessary for answering the main research question and conducting the empirical part. Nevertheless, for answering the main research question, only one S&P 500 study will be used to explain what the theory suggests regarding the impact of the chosen CEO characteristics on firm performance. The S&P 500 study, that can be applied for the United States, uses Tobin's Q and ROA as the firm performance indicators as well as Sales Growth and Leverage as control ratios. This thesis will therefore focus on only these ratios when it comes to firm performance and the empirical part.

The empirical part will test how strong the proposed impact on firm performance truly is by using a certain amount and type of American companies, namely four S&P 500 companies. Since there is no possibility to interview American CEOs, the information for conducting the empirical part will only be taken from the companies' homepages, annual reports, online business news and financial websites. Annual reports for fiscal 2019 that are published after 12.03.2020 will not be taken into consideration anymore.

Eventually, how strong the impact of the chosen CEO characteristics on firm performance truly is, will solely be assessed by using the information provided in the theoretical and empirical part.

## **2 CEO characteristics**

The Chief Executive Officer, being the person with the highest rank in a business company, is responsible for all tasks that cannot be delegated to other employees. The execution of these tasks requires a broader knowledge and a willingness to bear the responsibility for the outcome and is therefore reserved for the CEO. These tasks include making corporate decisions, such as setting a strategy that needs to be followed, modelling and setting the firm's culture, appointing and leading the senior executive team and managing the operations and resources of the company. It is crucial for an organization to choose a person that is truly capable of managing the mentioned tasks, because the CEO's actions will indisputably have a positive or negative impact on the firm's present and future operations. Therefore, appointing a CEO that is able to fulfill the tasks is an essential decision that has to be thoroughly thought through by the organization. The organization can approach this decision by analyzing the skills, characteristics and background of the CEO and assessing whether they match the company's background and the expectations regarding the skills and characteristics (Diks, 2016, 1-31). It is important to examine not only the skills, but also particular characteristics that go along with the Chief Executive Officer, e.g. age, tenure and

gender since they can have an influence on the company's success as well. Analyzing a CEO's skills and characteristics is not only important for organizations who wish to appoint a new CEO, but also for investors who think of financing the company.

This bachelor's thesis focuses on three chosen CEO characteristics – executive age, executive experience and executive busyness – and the following paragraphs will introduce them by explaining how they can influence a CEO's behavior and what it can mean for possible investors. There are other characteristics that can be taken into consideration, however, the chosen study that provides statistically proven information for answering the main research question of this thesis, examines the influence of these three characteristics on firm performance. Whether a negative or positive influence on the firm performance indicators is given by the mentioned characteristics will be discussed in the fourth chapter.

## 2.1 Executive age

The executive age is defined as the length of time that a CEO has lived (Peni 2014, 185-205). Younger and older CEOs are both common in the business world, however, U.S.-American companies that are listed in the Fortune 500 and S&P 500, hire CEOs with an average executive age of 57, as of 2019. Compared to 2005, where the average executive age was 46, U.S.-American companies tend to hire older CEOs nowadays (Business Insider, 2019).



**Figure 1: Average CEO age at hire (Business Insider, 2019)**

Younger and older CEOs have different views that influence their decision-making process in business life, and it is therefore important to have a closer look at both younger and older Chief Executive Officers.

### **2.1.1 Older CEOs**

Older CEOs had enough time to accumulate wealth during their previous careers that might serve as an extra pension for future years. The protection of this wealth could therefore be very important, and the strategic decisions and actions taken should not diminish the accumulated wealth in any way. Therefore, older CEOs tend to take limited strategic actions, resulting in staying committed to the status quo and avoiding additional risk. Larger acquisitions and Research and Development expenditures can go along with a higher risk and might therefore be unfavorable as well. Moreover, their cognitive schema has had more time to consolidate, which means that older Chief Executive Officers might be less willing or able to learn and integrate new information (Wang & Holmes JR. & Oh & Zhu 2016, 775-862). Cognitive schemata are models, created by people, that serve as efficient templates to filter new information on a person's individual way through life. This new information becomes part of the existing model and can lead to a modified one (Schmidt & Willis 2007). For older CEOs, the existing model might be strongly consolidated, meaning that including new information and in that way modifying the model, is hardly possible. Furthermore, the introduction of new technologies becomes more unlikely, the older the CEO is, confirming the fact that flexibility decreases while resistance to change increases as people age. In addition, older Chief Executive Officers tend to keep their upcoming retirement in mind, which means that short-term projects are preferred, even if long-term projects would create more value for shareholders. Eventually, advertisement and capital expenditures tend to decrease in the final years of a CEO (Nguyen & Rahman & Zhao 2018, 133-151).

### **2.1.2 Younger CEOs**

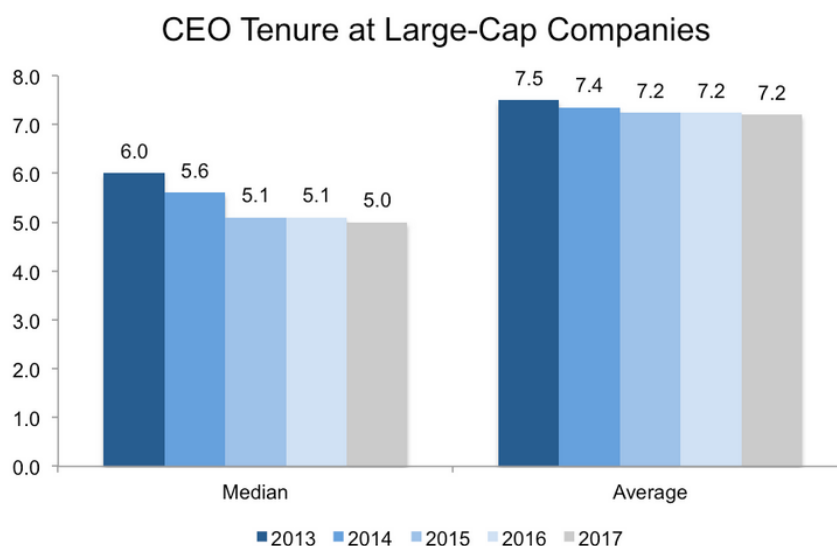
By contrast, younger CEOs have had little time to accumulate wealth during their previous careers. In order to change this circumstance, these CEOs might introduce aggressive strategic actions to achieve high financial returns not only for the business, but also for them as individuals. Influenced by the prospect of financial returns, younger CEOs are more willing to take higher risks, e.g. higher investments in Research and Development or the acquisition of other companies, sometimes overestimating their experiences and underestimating the impact of taking a higher risk. Regarding the cognitive schemata, their

models to filter new information are usually not consolidated and well-developed yet, meaning that it is easier for younger CEOs to learn and include new information quickly. As a result, they tend to assess investments faster than older CEOs and ensure that further actions are taken timely if the investment is profitable. Besides, they are more likely to initiate a change in the organization, thus defining a new status quo (Wang & Holmes JR. & Oh & Zhu 2016, 775-862). They open and close new plants more frequently and use market entry strategies that are riskier, such as the greenfield strategy, instead of opting for cooperation, like joint ventures (Belenzon & Shamshur & Zarutskie 2019, 917-944).

In conclusion, it is recommendable to consider the executive age when thinking of investing in a company. Lenders have to be certain about what they wish to achieve with their investment activity. Choosing a company with a younger CEO might go along with higher returns that are, however, linked to higher risks. Investing in companies with older CEOs, on the other hand, might guarantee lower returns at a more secure level.

## 2.2 Executive experience

The executive experience is defined as the number of years the current CEO of the company has served in that position (Peni 2014, 185-205). In this thesis, the executive experience is equal to CEO tenure and both terms will be used as synonyms for each other. As of 2017, the average CEO tenure at S&P 500 companies amounted to 7.2 years, showing a slight decrease when compared to 2013 (Harvard Law School Forum on Corporate Governance, 2018). There are currently no available numbers for 2019, however, the stable numbers of the last years lead to the assumption that CEO tenure in 2019 amounted to about 7 years as well.



**Figure 2: CEO tenure at S&P 500 companies (Harvard Law School Forum on Corporate Governance, 2018)**

When talking about a CEO's executive experience, it is important to distinguish whether it is a longer-tenured CEO or not. Longer-tenured CEOs and CEOs in their early tenure have different views that influence their decision-making process in business life, and it is again important to have a closer look at both CEO types.

### **2.2.1 Longer-tenured CEOs**

CEOs with more executive experience pursue the same goal as older CEOs, they usually want to protect their accumulated wealth in any way since this wealth might serve as an extra pension for future years. Therefore, longer-tenured CEOs tend to be less willing to make risky investments and to initiate new strategies that might harm the firm's operations and in turn their legacy. Furthermore, more experienced Chief Executive Officers have had more time to gain power, knowledge and skills, helping them to better cope with shareholder's pressure, for instance. Besides, they have had more opportunities to nominate board members with the same visions and goals, ensuring that both the CEO and the board pull together. The board, also called the board of directors, is legally present at every public company and can be found in non-profit organizations and private companies as well. The board is a panel of people who represent shareholders and they are responsible, among other things, for creating dividend and options policies, maintaining company resources and hiring and firing the Chief Executive Officer (Corporate Finance Institute, w.y.). So, the longer the CEO is present in his position, the less stakeholders can put the CEO under pressure (Wang & Holmes JR. & Oh & Zhu 2016, 775-862).

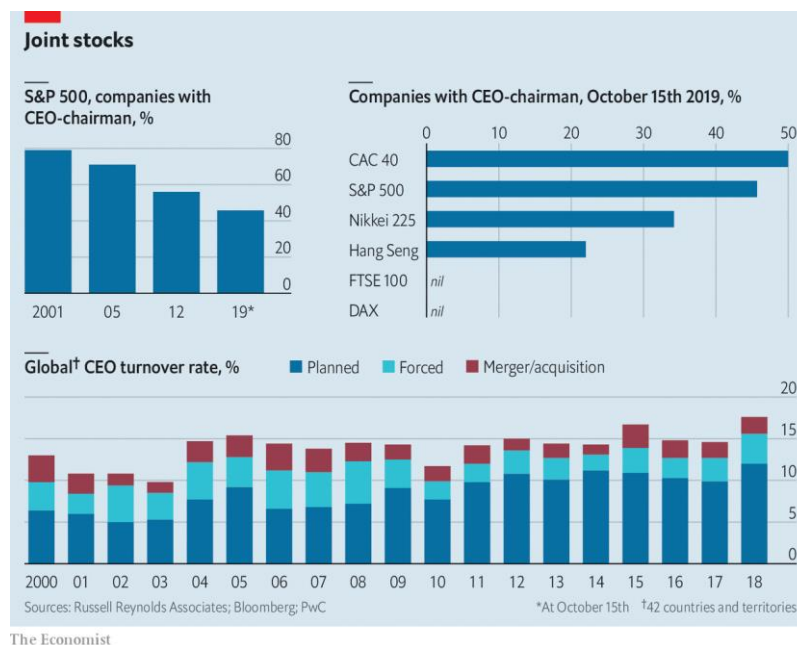
### **2.2.2 CEOs in their early tenure**

Chief Executive Officers with less executive experience tend to take higher risks. At the beginning of their tenure, CEOs are at a higher risk of dismissal and they try to demonstrate their skills by making major changes, e.g. changing the company's scope or implementing a new strategy. Through implementing riskier changes, they have the opportunity to exert their power, prove their skills and establish their authority. Unlike more experienced CEOs, these CEOs have no allies in the board of directors, which means that they should start to establish a relationship by asking the board members for advice or even mentoring (Wang & Holmes JR. & Oh & Zhu 2016, 775-862). Eventually, Bragaw and Misangyi (2015, 243-265) add that CEOs establish a certain "worldview" and a "repertoire of skills" in the early years of their tenure. Their learning process starts with becoming acquainted with the company and industry and decreases over time as they become more familiar with the daily business.

To summarize, longer-tenured CEOs make less riskier decisions, which ensures that the firm's success and the investor's money is not threatened. However, investors should keep in mind that longer-tenured CEOs tend to be more resistant against shareholder's pressure. It is therefore worth considering whether investing in a less-experienced CEO is the better option to go with.

### 2.3 Executive busyness

The executive busyness of a CEO can be measured through CEO duality. CEO duality means that the same person holds the CEO and Chairperson position in a company (Peni 2014, 185-205). The Chairperson is part of the board of directors and is in a higher position than the CEO. Without the approval of the board, the CEO is not able to make major decisions on his own (Corporate Finance Institute, w.y.). According to The Economist (2019), CEO duality amounted to approximately 40% in 2019, which is a major decrease compared to 2001. Nevertheless, almost half of S&P 500 companies allow CEOs to hold the Chairperson position as well.



**Figure 3: CEO duality at S&P 500 companies (The Economist, 2019)**

The advantages and disadvantages of CEO duality can be approached through two different theories, namely agency and stewardship theory.

### **2.3.1 Agency theory**

Agency theory describes the relationship between the agent and the principal. The agent is defined as being self-interested, boundedly rational and different from principals in his goals and risk-taking preferences (Payne & Petrenko, 2019). When applying the agency theory to CEO duality, the CEO has the role of the agent, whereas the owners, represented by the board of directors, are the principals. The agent is defined as being self-interested, which means that the goals and interests of the CEO may differ from the interests of the owners. It is therefore necessary for the board of directors to control and monitor the CEO closely in order to be able to align the CEO's and owner's goals. However, when the CEO is also the Chairperson of the Board, the controlling and monitoring role is constrained. The board is then in a less powerful position relative to that of the CEO, even though the board of directors should be superior to the Chief Executive Officer (Wang & Sun & Yu & Zhang 2014, 94-101). The agency theory clearly states that CEO duality diminishes the power of the board of directors and hinders the alignment of both interests and is therefore disadvantageous for the shareholders.

### **2.3.2 Stewardship theory**

Stewardship theory argues "that people are intrinsically motivated to work for others or for organizations to accomplish the tasks and responsibilities with which they have been entrusted". Moreover, "people are collective minded and pro-organizational rather than individualistic and therefore work toward the attainment of organizational, group, or societal goals because doing so gives them a higher level of satisfaction." (Menyah, 2013). In this theory, the CEO is the steward and is intrinsically motivated to work for the organization and to accomplish tasks in the interest of the firm and the shareholders. Monitoring and controlling leads to less CEO motivation, therefore giving more authority is the right approach in this case (Wang & Sun & Yu & Zhang 2014, 94-101). CEO duality ensures more authority and leads to an even higher motivation to act in accordance with the owner's interests and goals. Aligning these goals gives the CEO a higher level of satisfaction and motivates him to further work on satisfying the firm and the shareholders. By contrast to the agency theory, the stewardship theory clearly states that CEO duality ensures that the Chief Executive Officer is not only working in his interest, but also in the interest of the owners.

In order to be able to say whether CEO duality is advantageous or disadvantageous for possible investors, it is important to know how they perceive CEO duality. Since almost 50,



of S&P 500 companies combine the role of the CEO and the Chairperson, it leads to the assumption that at least organizations perceive CEO duality as advantageous.

### **3 Firm performance**

The previous chapter provided information on the executive age, executive experience and executive busyness of a CEO and is supposed to give a better understanding of the CEO characteristics that this bachelor's thesis focuses on. However, the definition of the characteristics is only the first step in being able to answer the main research question. It is still necessary to have a closer look at firm performance and to specify clearly how firm performance is measured in this academic work. This bachelor's thesis analyzes the results of a previous study that has already examined the relationship between CEO characteristics and firm performance and uses the same firm performance indicators, namely Tobin's Q (investment ratio) and ROA (Return on Assets, profitability ratio). It is necessary to introduce and focus on exactly these ratios since the statistical findings of the academic study will be the foundation for dealing with the main research question and for conducting the empirical part. Tobin's Q and ROA serve as dependent variables in the statistical analysis, which means that these ratios measure firm performance. However, Tobin's Q and ROA might not only be influenced by certain CEO characteristics, but also by other ratios that serve as control variables. The established control variables in the academic study and this bachelor's thesis are Leverage and Sales Growth (other performance ratios). Whether and what impact the control variables have on firm performance (Tobin's Q and ROA), should also be discussed in this chapter.

In general, this chapter should provide information on firm performance, so that the reader is able to establish a basic understanding of this term. Furthermore, the dependent variables – Tobin's Q and ROA – should be introduced in greater detail, including a general explanation, a formula and a definition of a good and poor level. The same approach is valid for the control variables Leverage and Sales Growth, whereby the impact of the control variables on the dependent variables should be explained in more detail. The aim of this chapter is to provide sufficient information for the reader to be able to understand what firm performance is and how it can be measured.

### 3.1 Definition

The absence of an operational definition for firm performance leads to the circumstance that the term firm performance can be defined differently. People that deal with this issue have come up with definitions that are general, abstract, less or clearly defined, depending on the personal interpretations. So, when talking about firm performance, there is no right or wrong and there are various definitions that have been determined during the last decades. This paragraph should introduce some of them, so that the reader has a general idea of firm performance in the end.

In the 1960s and 1970s, Yuchtman and Seashore defined firm performance as “an organization’s ability to exploit its environment for accessing and using the limited resources”. In 1986, Porter put the focus more on the customers of the firm, stating that firm performance depends on its ability to create value for its clients. In 1994, Adam approached firm performance very differently to his predecessors, saying that organizational performance is deeply dependent on the employee’s performance quality. In his eyes, a good firm performance could only be achieved by giving the employees up-to-date knowledge and skills, which ensures that the employees keep pace with the market’s changes. Harrison and Freeman (1999) defined a good level of firm performance as keeping the stakeholders (e.g. investors, employees and customers) satisfied. In 2009, Colase made organizational performance dependent on growth, profitability and return and Bartoli and Blatrix expanded the definition in 2015 by adding items like efficiency, effectiveness and quality (Taouab & Issor 2019, 93-106).

Looking at the different definitions, it becomes clear that firm performance cannot be defined generally since it strongly depends on personal perceptions and interpretations. Nevertheless, the chosen measurement of firm performance in this bachelor’s thesis corresponds best with Colase’s definition. Therefore, in this thesis *firm performance is defined as growth, profitability and return.*

### 3.2 Measurements

After looking at various definitions, it is important to explain how external parties, including investors, can measure an organization’s performance. This paragraph introduces some models that are used to measure firm performance and specifies how the performance is measured in this bachelor’s thesis.

According to Taouab and Issor (2019, 93-106), the most important reason why to measure firm performance is to evaluate whether the organizational strategy is followed. Comparing the performance over different periods allows various stakeholders to see whether a progress has been made or whether changes have to be implemented within the organization. Moreover, the measurement might offer important invaluable information, which allows to monitor performance, report progress, improve motivation and communication, and pinpoint problems. There are different common models how to measure firm performance, including Balanced Scorecard, Performance Prism, Malcolm Bridge Model and Performance Pyramid (Taouab & Issor 2019, 93-106). Even though these models are common firm performance measurements, firm performance will be measured differently in this thesis.

In this bachelor's thesis, firm performance is defined as Tobin's Q (investment ratio) and ROA (Return on Assets, profitability ratio). Investment ratios reflect the shareholder's expectations concerning the future performance (Al-Matari & Al-Swidi & Fadzil 2014, 24-49), whereas profitability ratios measure a company's ability to generate income relative to revenue, balance sheet assets, operating costs, and equity (Corporate Finance Institute, w.y.). In this thesis, it is necessary to use Tobin's Q and ROA for measuring firm performance, because the academic study that has examined the relationship between the chosen CEO characteristics and firm performance has based its statistical findings on these ratios. Moreover, Tobin's Q and ROA serve as dependent variables in the statistical analysis and will therefore be categorized as these in this bachelor's thesis. In order to be able to deliver statistically proven results, it is important to use other ratios as well, because Tobin's Q and ROA might not only be influenced by certain CEO characteristics. These other ratios, defined as other performance indicators, are Leverage and Sales Growth and are categorized as control variables.

In summary, Tobin's Q (investment ratio) and ROA (profitability ratio), categorized as dependent variables, represent firm performance. Leverage and Sales Growth (other performance indicators) are categorized as control variables, i.e. they might have an impact on firm performance, but they do not represent firm performance.

### **3.3 Importance**

After defining firm performance and introducing possible measurements, it might be beneficial to explain why one specific stakeholder group, namely the investors, should keep track of the company's performance.

Measuring the performance allows investors to see whether the company's business is successful, especially when tracking the performance over a certain period of time. A successful business will satisfy existing stakeholders and offer attractive financial returns for new ones. Moreover, a good firm performance shows that the processes within the company are running smoothly, whereas a lower firm performance might indicate that changes have to be made. All in one, measuring the performance allows investors to see whether the company's operations steer the company towards successful financial years and whether satisfying financial returns can be expected in turn.

### **3.4 Dependent variables**

A dependent variable is a variable that changes depending on one or several independent variables. It is also called the endogenous variable, because it demonstrates a reaction to changes in the independent variable (Statista, w.y.). In this case, Tobin's Q and ROA might be affected by a CEO's executive age, executive experience and executive busyness that serve as independent variables.

#### **3.4.1 Tobin's Q**

Tobin's Q or the Q Ratio compares the market value of a company to the replacement cost of its assets. The market value is equal to the market value of equity and is explained in the next paragraph. The replacement cost, or replacement value, is the cost of replacing an existing asset based on its current market price. However, estimating the replacement cost of an asset can be quite difficult, that is why the book value of total assets is used instead. Tobin's Q is used to estimate whether a given business or market is overvalued or undervalued. A low Q (between 0 and 1) means that the stock is undervalued, whereas a high Q (greater than 1) means that the stock is overvalued (Hayes, 2019). Especially for investors it is important to know whether a stock is under- or overvalued. An undervalued stock sells for less than it is worth, indicating that the price is more likely to rise over time. In other words, investors can buy the stock for a low price and sell it for a higher price in the end, thus making a profit. Vice versa, overvalued stocks sell for more than they are worth. This could mean that investors buy the stock for a high price and sell it for a lower price in the end, thus making a loss (Burch, 2019). There is no clear statement on what is considered to be a good or poor Tobin's Q, however, in this bachelor's thesis, an increase in Tobin's Q is perceived as positive.

The formula for calculating Tobin's Q is provided by Peni (2014, 185-205) and is as follows:

$$\frac{\text{market value of equity} + \text{book value of debt} + \text{book value of preferred stock}}{\text{book value of total assets}}$$

### ***Market value of equity***

The market value of equity, also known as market capitalization, represents how much investors think a company is worth today. Since the two input variables share price and shares outstanding can change daily, the market value of equity can change throughout the trading day (Chen, 2019).

$$\text{current price per share} \times \text{total shares outstanding}$$

### ***Book value of debt***

The book value of debt represents a certain amount of debt that is recorded in the books (balance sheet) of the company (WallStreetMojo, w.y.).

$$\text{long term debt} + \text{notes payable} + \text{current portion of long term debt}$$

### ***Book value of preferred stock***

The book value of preferred stock represents the amount a company would pay out per share if it decides to sell off its assets (Keythman, w.y.).

$$\frac{\text{call price} + \text{cumulative dividends in arrears}}{\text{number of outstanding preferred shares}}$$

### ***Book value of total assets***

The book value of total assets represents the total amount of assets that is recorded in the books (balance sheet) of the company.

## **3.4.2 Return on Assets**

ROA, Return on Assets, is a profitability ratio that indicates how profitable a company is relative to its total assets. By using this ratio, managers and investors can assess how efficient an organization is using its assets to generate earnings.

Since ROA is highly dependent on the industry, it is important to compare the numbers against previous ones or against the numbers of a similar company. It is difficult to state

what a good or poor level of ROA is, however, the higher the ratio is the more efficient the company is using its assets (Hargrave, 2019).

$$\frac{\text{net income}}{\text{total assets}}$$

### ***Net income***

Net income, also called net earnings, shows how much is left after conducting the cost of goods sold (COGS), selling, general and administrative expenses (SG&A), operating expenses, depreciation, interest, taxes, and other expenses from sales. This number can be found on a company's income statement and is, such as ROA, an indicator of a company's profitability (Kenton, 2020).

### ***Total assets***

Total assets are the sum of current and non-current assets and equal the sum of liabilities and shareholder's equity.

## **3.5 Control variables**

A control variable is a variable that is not of primary interest and is used as a third factor whose influence is to be controlled (Salkind, 2010). In this case, Leverage and Sales Growth serve as control variables, they are not of primary interest since they do not measure firm performance, however, it is important to control their influence on Tobin's Q and ROA.

### **3.5.1 Leverage**

In this bachelor's thesis, Leverage (amount of debt a firm uses to finance assets (Hayes, 2019)) is defined as the debt to asset ratio. This ratio shows the percentage of assets that are financed with debt. It is used by creditors to determine the amount of debt in a company and the company's ability to repay the debt. Moreover, investors can use this ratio to make sure that the company is solvent and is able to meet current and future obligations (Corporate Finance Institute, w.y.).

It is difficult to state what a good or poor level of Leverage is, however, the higher the ratio, the greater the degree of leverage and financial risk. A ratio of 0.6 for instance means that 60% of the company's assets are financed by creditors and the remaining 40% are financed with equity.

$$\frac{\text{short-term debt} + \text{long-term debt}}{\text{total assets}}$$

Since Leverage serves as a control variable, it is important to show whether it has an influence on Tobin's Q and/or ROA. In order to be able to show this influence, the statistical findings of Emilia Peni (2014, 185-205) will be presented. The study of Emilia Peni will be introduced in the next chapter as her findings are used to answer the main research question of this bachelor's thesis. Therefore, in this chapter, only the two tables showing the impact of Leverage and Sales Growth on Tobin's Q and/or ROA will be discussed.

Dependent variable	Q <i>Model 1</i>	ROA <i>Model 2</i>	Q <i>Model 3</i>	ROA <i>Model 4</i>
Leverage	0.021	- 0.156***	0.155	- 0.149***
Dependent variable	Q <i>Model 5</i>	ROA <i>Model 6</i>	Q <i>Model 7</i>	ROA <i>Model 8</i>
Leverage	0.026	- 0.154***	0.164	- 0.150***

**Table 1: Impact Leverage on Tobin's Q and ROA (Peni, 2014)**

In order to be able to understand the influence, it is necessary to explain what “\*\*\*” means in a statistical sense. In this case, “\*\*\*” indicates a significance at the 0.01 level, which means that the finding has a 99% chance of being true or a 1% chance of not being true. “\*\*” indicates a significance at the 0.05 level and “\*” indicates a significance at the 0.10 level.

Table 1 clearly states that Leverage has no impact on Tobin's Q since the significance indicator is missing. However, Leverage has in all four models (Model 2, 4, 6 and 8) an impact on ROA, indicated by a significance at the 0.01 level. Moreover, it has a negative impact, meaning that the higher the debt to asset ratio is, the lower ROA gets. Conversely, the lower the debt to asset ratio is, the higher ROA gets.

### 3.5.2 Sales Growth

Sales Growth is the percent growth in the net sales of a company from one period to another. Looking at the Sales Growth rate can tell an investor whether the sales numbers rose between two periods and by how much. Analyzing the growth rate can inform an investor about the company's financial performance and the business' profitability. Moreover, a high

percentage of sales growth might indicate that the economy is doing well, because consumers are willing to spend their money (Reddigari, 2019). There is no good or bad level for Sales Growth, but it is of course considered as good if sales numbers have risen over the last period.

$$\frac{\text{net sales current period} - \text{net sales prior period}}{\text{net sales prior period}} \times 100$$

As for Leverage, the statistical findings of Emilia Peni (2014, 185-205) will be presented to assess whether Sales Growth has an impact on Tobin's Q and/or ROA.

Dependent variable	Q <i>Model 1</i>	ROA <i>Model 2</i>	Q <i>Model 3</i>	ROA <i>Model 4</i>
Sales Growth	0.022***	0.002***	0.020***	0.002**
Dependent variable	Q <i>Model 5</i>	ROA <i>Model 6</i>	Q <i>Model 7</i>	ROA <i>Model 8</i>
Sales Growth	0.022***	0.002***	0.020***	0.002**

**Table 2: Impact Sales Growth on Tobin's Q and ROA (Peni, 2014)**

Table 2 clearly states that Sales Growth has both a positive impact on Tobin's Q and ROA. Sales Growth has in all four models an impact on Tobin's Q, indicated by a significance at the 0.01 level. However, Sales Growth has in two models (Model 2 and Model 6) an impact on ROA, indicated by a significance at the 0.01 level, whereas it has in Model 4 and Model 8 only a significance at the 0.05 level. Therefore, it is more probable that Sales Growth has a positive impact on Tobin's Q than on ROA, meaning that Tobin's Q increases due to a growth in sales.

The findings regarding the influence of Leverage and Sales Growth on Tobin's Q and ROA will be important in the next chapter and the empirical part and only serve as an introduction in this chapter.



## 4 CEO characteristics and firm performance

The aim of this chapter is to answer the main research question from a theoretical point of view. In order to be able to find an answer for the question, this bachelor's thesis introduces and analyzes the statistical findings of one specific study that reports a relationship. In order to be able to assess how strong the impact of the chosen characteristics is, it is important to first introduce and analyze a study that reports a relationship. Without analyzing a study that statistically confirms a relationship, it is not possible to assess the impact from a theoretical and empirical point of view. There are various other studies that have examined the impact of certain CEO qualities on a firm's performance, however, the chosen study fulfills certain requirements that are necessary to answer the research question and to conduct the empirical part. This bachelor's thesis requires a study that deals with the three chosen CEO characteristics and that reports a relationship between these characteristics and firm performance in the United States of America.

The chosen study "CEO and Chairperson characteristics and firm performance", conducted by Emilia Peni (2014, 185-205), focuses on the relationship between Chief Executive Officer and Chairperson characteristics and firm performance. This study takes also Chairperson characteristics into consideration, however, since this thesis is only focusing on the Chief Executive Officer, the findings regarding the Chairperson will be neglected. The introduced characteristics are executive gender, executive age, executive experience, executive busyness and executive quality. Furthermore, Tobin's Q and ROA are defined as the firm performance indicators, and this is why the previous chapter has defined firm performance in exactly the same way. Moreover, Peni uses a sample of 305 S&P 500 firms in order to examine the relationship. The sample period extends from 2006 to 2010 and amounts to 1,525 firm-year observations. The S&P 500 (Standard & Poor's 500) is a market-capitalization (market cap) weighted index of the 500 largest U.S.-American publicly traded companies (Kenton, 2019). Publicly traded companies are corporations whose shares are traded on stock exchanges or over-the-counter markets and that is why the ownership of these corporations is distributed amongst general public shareholders (Banton, 2019). Companies included in the S&P 500 index represent the leading industries of the American economy and are part of this index because of their market size and liquidity (Kenton, 2019). Successful companies that are listed in the S&P 500 index are for instance Apple, Microsoft and Amazon.

The S&P 500 index considers companies with non-American headquarters as well, which might mean that Peni examines the relationship between a CEO's characteristics and firm performance not only in the United States. If this would be the case, it would not be possible to assess how strong the impact of the chosen CEO characteristics on the performance of firms operating within the United States is. However, Peni states in her limitations that her results might not be applicable to firms operating outside the USA, which indicates that she primarily focuses on the United States.

After a brief introduction of Peni's study, it is important to understand why this study is used to answer the main research question from a theoretical point of view. First of all, Peni focuses, amongst others, on a CEO's executive age, executive experience and executive busyness, just as this bachelor's thesis. Secondly, she uses a sample of S&P 500 companies, which means that she examines the relationship and the impact in the United States. Eventually, the empirical part should also contribute to the clarification of the main research question and Peni's statistical findings deliver the necessary foundation to conduct the empirical part.

#### **4.1 Statistical findings**

In order to assess how strong the impact on firm performance is, it is necessary to examine whether a relationship between the chosen CEO characteristics and firm performance can be seen altogether. To examine the relationship, it is necessary to conduct several steps beforehand. Emilia Peni (2014, 185-205) has conducted a cross-sectional panel regression, which is a statistical method used to examine the relationship. Since this bachelor's thesis is only answering how strong the impact of the chosen CEO characteristics on the performance of U.S.-American companies is, it is sufficient to present and explain Peni's findings. Therefore, no explanations regarding Peni's used methodology will be delivered.

The following chapters will answer why Peni states that a relationship between a CEO's executive age, executive experience and executive busyness and firm performance in the United States can be seen and how strong the impact is. The results are based on the 305 S&P 500 companies, which represent the United States.

#### 4.1.1 Executive age and firm performance

In Peni's study, executive age is called CEOAGE.

Dependent variable	Q <i>Model 1</i>	ROA <i>Model 2</i>	Q <i>Model 3</i>	ROA <i>Model 4</i>
Executive age	-0.003	0.001***	-	-

**Table 3: Impact executive age on Tobin's Q and ROA (Peni, 2014)**

Table 3 clearly states that a CEO's executive age has no impact on Tobin's Q since the significance factor is missing. However, executive age has an impact on ROA, indicated by a significance at the 0.01 level. Moreover, it has a positive impact, meaning that the older the CEO is, the higher ROA gets.

#### 4.1.2 Executive experience and firm performance

In Peni's study, executive experience is called CEOEXP.

Dependent variable	Q <i>Model 1</i>	ROA <i>Model 2</i>	Q <i>Model 3</i>	ROA <i>Model 4</i>
Executive experience	0.006**	0.000	-	-

**Table 4: Impact executive experience on Tobin's Q and ROA (Peni, 2014)**

Table 4 shows that the executive experience of a CEO has no impact on ROA, but a positive impact on Tobin's Q, indicated by a significance at the 0.05 level. The 0.05 level shows that this finding has, compared to the significance level of table 3, only a 95% chance of being true. Nevertheless, this finding indicates that longer-tenured CEOs increase the Tobin's Q of their company.

### 4.1.3 Executive busyness and firm performance

In Peni's study, executive busyness is called DUAL.

Dependent variable	Q <i>Model 1</i>	ROA <i>Model 2</i>	Q <i>Model 3</i>	ROA <i>Model 4</i>
Executive busyness	0.287***	0.020***	0.268***	0.027***
Dependent variable	Q <i>Model 5</i>	ROA <i>Model 6</i>	Q <i>Model 7</i>	ROA <i>Model 8</i>
Executive busyness	0.278***	0.021***	0.314***	0.027**

**Table 5: Impact executive busyness on Tobin's Q and ROA (Peni, 2014)**

Table 5 clearly states that the executive busyness of a CEO, i.e. the same person holds the CEO and Chairperson position in a company, has both a positive impact on Tobin's Q and ROA. Executive busyness has in all models an impact on Tobin's Q and ROA, indicated by a significance at the 0.01 level. This finding shows that CEO duality both increases ROA and Tobin's Q.

## 4.2 Limitations

Peni presents some limitations in her study and two of them are also applicable for this bachelor's thesis. First of all, the used sample includes only S&P 500 companies. This means that the statistical findings regarding the executive age, executive experience and executive busyness are certainly applicable for S&P 500 companies and therefore for the United States. However, it might be that these findings are not applicable for smaller companies also operating in the United States. Secondly, the study and this thesis focus on only some CEO characteristics. There are other executive-specific characteristics that might have an impact on firm performance besides the chosen ones (Peni 2014, 185-205).

## 4.3 Conclusion

When looking at the statistical findings, it becomes clear that the theory proposes that the chosen CEO characteristics have an impact on Tobin's Q and/or ROA and consequently on firm performance. Moreover, the chosen CEO characteristics have a rather strong impact on firm performance since Tobin's Q and/or ROA increase or decrease as a result. If the chosen

CEO characteristics would have a rather weak impact, the firm performance indicators would presumably not change. Therefore, the main research question can be answered from a theoretical point of view by stating that a CEO's executive age, executive experience and executive busyness has a strong impact on the performance of firms operating within the United States. In addition, the findings above also mean that investors should gather information about a CEO's age, experience and busyness before investing in a company. Nevertheless, to fully examine how strong the impact of the chosen CEO characteristics on firm performance truly is, it is still necessary to conduct the empirical part.

As stated in the limitations, the statistical findings are based on a sample of S&P 500 companies, which represent the United States. However, when using a sample of companies that are not listed in the S&P 500 index, it might be that no significant impact can be determined. Therefore, it is important to keep in mind that in this case only an impact might be seen when analyzing S&P 500 companies.

In order to complete the theoretical part, an overview of the relationship and the impact on firm performance will be provided. Moreover, the defined control variables Leverage, and Sales Growth will be incorporated since they have an impact on firm performance as well.

The executive age, defined as the length of time that a CEO has lived, has no impact on Tobin's Q, but a positive impact on ROA. This means that older CEOs have a positive impact on ROA, whereas younger CEOs have a negative impact on ROA. To illustrate the relationship between the executive age and ROA, a simple example will be used. In 2018, company X had a 40-year old CEO and a ROA of 9% at the end of the year. At the beginning of 2019, company X hired a new CEO (53 years) and determined a ROA of 13% at the end of that year. Since the executive age has a positive and strong impact on ROA, the older CEO increased the profitability of the company relative to its assets. However, it might be the case that ROA amounted to 7% at the end of 2019, even if the new CEO is older. In this case, it is reasonable to use the control variable Leverage and to determine whether the debt to asset ratio has increased compared to 2018. Leverage has a negative impact on ROA, meaning that a higher debt to asset ratio causes a decline in ROA, even if an older CEO would contribute to a higher ROA.

The executive experience, defined as the number of years the current CEO of the company has served in that position, has no impact on ROA, but a positive impact on Tobin's Q. This means that longer-tenured CEOs have a positive impact on Tobin's Q, whereas CEOs in

their early tenure have a negative impact on Tobin's Q. To illustrate the relationship between the executive experience and Tobin's Q, the example of company Y will be used. At the end of 2017, company's Y CEO retired after 4 years in that position. In 2018, a new CEO was hired and served 2 years in that position by the end of 2019. In 2017, Tobin's Q amounted to 1.5, which means that the company was a bit overvalued. In 2019, Tobin's Q amounted to 1.3, which means that the company was less overvalued. Since CEOs in their early tenure have a negative, but strong impact on Tobin's Q, the new CEO pushed Q away from the old figure. However, it might be the case that Tobin's Q amounted to 1.6 at the end of 2019, even if the current CEO is in his early tenure. In this case, it is reasonable to use the control variable Sales Growth and to determine whether sales increased compared to 2017. Sales Growth has a positive impact on Tobin's Q, meaning that Q can increase, even if a CEO in his early tenure would cause Q to decrease.

The executive busyness of a CEO, measured through CEO duality, has both a positive impact on Tobin's Q and ROA. This means that combining the role of the CEO and the Chairperson is advantageous for the company, just as the stewardship theory proposes in the "CEO characteristics" chapter. To illustrate the impact of CEO duality, the example of company Z will be used. In 2018, company's Z CEO was only responsible for the tasks assigned to the role of a CEO. To that time, Tobin's Q and ROA amounted to 1.4 and 12%. At the beginning of 2019, the CEO was offered the position of the Chairperson and he accepted. In 2019, Tobin's Q and ROA amounted to 1.6 and 15%. Since CEO duality has a positive and strong impact on Tobin's Q and ROA, both Tobin's Q and ROA increased. As for executive age and executive experience, it might be the case that Tobin's Q and/or ROA decreased despite CEO duality. In this case, it is again reasonable to use the control variables Leverage and/or Sales Growth and to check the development of the two figures.

It is important to mention that Tobin's Q and ROA might not only be influenced by certain CEO characteristics and the control variables Leverage and Sales Growth. It is therefore necessary to look out for external factors that could have an impact on the firm's performance as well.

CEO Characteristic	Firm Performance Indicator	Impact	Control Variable	Impact
Executive age	ROA	positive	Leverage	negative
Executive experience	Tobin's Q	positive	Sales Growth	positive
Executive busyness	Tobin's Q ROA	positive	Sales Growth Leverage	positive negative

**Table 6: CEO characteristics and firm performance**

## 5 Test of relationship

The empirical part uses the information provided in the theoretical part and examines how strong the impact of the chosen CEO characteristics on firm performance truly is. The main goal of the empirical part is to see whether the impact on the firm performance indicators is as strong as proposed in the theoretical part and whether investors should really keep a CEO's executive age, executive experience and executive busyness in mind when it comes to evaluating an investment option.

In order to test the proposed impact, it is important to choose companies that are listed on the S&P 500 index. The test is based on the statistical findings of Emilia Peni and since her findings are based on a sample of 305 S&P 500 companies, this bachelor's thesis chooses companies from this particular index as well.

In order to conduct this test, four companies within a similar market capitalization range will be chosen. As a next step, the current CEO of each company will be introduced, including information about the executive age, executive experience and executive busyness. Moreover, ROA, Tobin's Q, Leverage and Sales Growth of each company will be calculated and provided. To see whether the chosen CEO characteristics have the same significant impact on the firm performance indicators as Emilia Peni suggests, it is necessary to provide a comparison between two financial periods. Peni (2014, 185-205) states in her limitations that her sample period is limited to five fiscal years, which means that longer-term effects of CEO characteristics on firm performance cannot be analyzed based on her statistical findings. This means that the two compared financial periods in the empirical part are not more than five years apart. One financial period is always the year of the last available annual

report, i.e. 2019 or 2018. The firm performance indicators of 2019 or 2018 will therefore be compared to the performance indicators of 2014 or 2013. If the current CEO is less than five years active in his role, the firm performance indicators of the first full year of the current CEO will serve as a comparison. So, if the current CEO was appointed in August 2015, ROA and Tobin's Q of 2019 or 2018 will be compared with ROA and Tobin's Q of 2016. It is reasonable to analyze the financial situation of 2016 instead of 2015, because the firm performance indicators of 2015 might be influenced by the characteristics of both the previous and the current CEO.

As known from the statistical findings, the executive age of a CEO has a positive impact on ROA. It is obvious that in the chosen sample of this bachelor's thesis the impact should always be positive, as the current CEO is always older in 2019/2018 compared to 2014/2013 or his first full year in the position. It is also necessary to include the control variable Leverage and to check whether Leverage's development has a positive or negative impact on ROA.

The same approach is valid for the executive experience of the CEO, with the difference that the executive experience has a positive impact on Tobin's Q and the control variable is Sales Growth.

When testing the impact of a CEO's executive busyness on Tobin's Q and ROA, there are two different approaches. Executive busyness was introduced as CEO duality, which means that the same person holds the CEO and Chairperson position in a company. If the current CEO took over the position of the Chairperson at the end of fiscal 17 for instance, it is necessary to look at Tobin's Q and ROA and to check whether Tobin's Q and ROA increased in fiscal 18 compared to fiscal 17. However, it might be that the impact of executive busyness cannot be measured, even if CEO duality is given. This is the case when the CEO took the role of the CEO and the Chairperson at the beginning of his tenure. Then, there is no financial period without CEO duality that could be compared to a financial period with CEO duality. Eventually, the relationship between executive busyness and firm performance can also not be measured if CEO duality is not given at all. If the impact of executive busyness cannot be measured, the other approach is to check whether the current CEO occupies external board seats in other publicly traded companies. According to Peni (2014, 185-205), CEOs who are active in the board of directors of other companies, have a negative impact on Tobin's Q. So, if the impact of CEO duality cannot be measured, this bachelor's thesis will check whether the current CEO has other board responsibilities outside the company and assess whether this impacts Tobin's Q negatively.



Unfortunately, it is not possible to interview American CEOs and to get first-hand information. Therefore, the required information will be collected through the company's annual reports and homepages, the financial websites Forbes and Reuters and other online business news providers.

The following companies are used to examine how strong the impact of a CEO's executive age, executive experience and executive busyness on the firm performance truly is:

- Cisco Systems
- Home Depot
- Procter & Gamble
- Johnson & Johnson

All the chosen companies have their headquarters in the United States of America and are therefore suitable for this bachelor's thesis.

## **5.1 Cisco Systems**

Cisco Systems, Inc. designs, manufactures, and sells Internet Protocol based networking products and services related to the communications and information technology industry. It provides a broad line of products for transporting data, voice, and video within buildings and across campuses (Forbes, 2019).

The current CEO of Cisco Systems is Charles H. Robbins and he is currently 53 years old (Reuters, 2020). He took the role of the CEO on July 26, 2015 and was moreover elected Chairman of the Board on December 11, 2017 (Cisco, w.y.). To test whether Robbins' executive age and executive experience have an impact on the firm performance indicators, the indicators of 2016 and 2019 will be compared to each other. As Robbins was also elected Chairman of the Board, it is possible to test the impact of his executive busyness on firm performance. In order to do so, ROA and Tobin's Q of 2018 and 2019 will be compared to each other. Since the test is based on Peni's statistical findings, the impact on the firm performance indicators should be as follows: ROA should increase in 2019 compared to 2016, because of a higher executive age. Tobin's Q should also increase in 2019 compared to 2016, because Robbins is more experienced. Eventually, ROA and Tobin's Q should increase in 2019 compared to 2018, because CEO duality is completely given in 2019. To see whether the proposed impact is the case in reality, the figures for 2016, 2018 and 2019 will now be provided and analyzed. The figures, given in millions, will be taken from the

annual reports of 2016, 2018 and 2019 provided by Cisco Systems itself.

<i>Cisco Systems, Charles H. Robbins</i>	Executive age	ROA	Leverage
fiscal 16	49	$\frac{\$ 10,739}{\$ 121,652} * 100 = 8.83\%$	$\frac{\$ 4,160+24,483}{\$ 121,652} * 100 = 23.55\%$
fiscal 19	52	$\frac{\$ 11,621}{\$ 97,793} * 100 = 11.88\%$	$\frac{\$ 10,191+14,475}{\$ 97,793} * 100 = 25.22\%$

**Table 7: Cisco Systems, impact executive age on ROA**

When comparing the ROA of 2016 and 2019, it is obvious that ROA has increased by 3.05 percentage points. The ROA of 2019 shows that Cisco Systems used its total assets even more efficient than in 2016 to generate earnings. ROA was higher in 2019 because of less total assets and when comparing the balance sheets of both years, it becomes obvious that the decrease in total assets was due to a significant decrease in investments. Investments in 2016 amounted to \$ 58,125 M, whereas the investments in 2019 amounted to only \$ 21,663 M. All the other assets are nearly the same in both years. As discussed in the theoretical part, older CEOs tend to take limited strategic actions in order to avoid additional risk. Cutting the investments might be one way for Charles Robbins to protect his accumulated wealth and to avoid additional risk. Moreover, older CEOs tend to avoid larger acquisitions, and this is definitely the case for Cisco Systems and its acquisitions. In 2016, Cisco acquired twelve companies in total, whereas the acquisitions in 2019 amounted to five. However, the theory also suggests that older CEOs spend less money on Research and Development, which is not the case here. In 2016, R&D expenses amounted to 6,296 and in 2019 to 6,577. To test whether ROA might have been even higher, it is necessary to provide the calculations for Leverage as well. As already known, Leverage has a negative impact on ROA, so the higher Leverage is, the lower ROA gets. In the case of Cisco Systems, Leverage slightly increased in 2019 compared to 2016, which means that Leverage negatively influenced ROA in 2019. It can be assumed that the executive age of Robbins might have had an even stronger impact on ROA if Leverage would not have increased.

In conclusion, it can be assumed that Charles Robbins' higher executive age has, as proposed by Peni, a positive and strong impact on firm performance.

<i>Cisco Systems, Charles H. Robbins</i>	Executive experience	Tobin's Q	Sales Growth
fiscal 16	1 year	$\frac{\$ 153,535 + (24,483 + 4,159)}{\$ 121,652} = 1.50$	-
fiscal 19	4 years	$\frac{\$ 240,253 + (14,475 + 5,998)}{\$ 97,793} = 2.67$	$\frac{\$ 51,904 - 49,247}{\$ 49,247} * 100 = 5.4\%$

**Table 8: Cisco Systems, impact executive experience on Tobin's Q**

Tobin's Q increased in 2019 compared to 2016, which might be due to the fact that Charles Robbins is more experienced. Tobin's Q in 2019 shows that the company is more overvalued than it was in 2016. For investors, this means that Cisco's shares might sell themselves for more than they are actually worth and trading with these shares is therefore riskier. Compared to 2016, the market value was higher, whereas long-term debt and total assets were less. As explained earlier, total assets were less in 2019 because of less investments, which could be linked to the behavior of older CEOs. Since the market value of Cisco Systems has increased, it is important to look at the shares outstanding and the share price in 2016 and 2019 to understand this development. In 2016, Cisco Systems had 5.029 bn shares outstanding and a closing price at the end of fiscal 2016 (29.07.2016) of \$ 30.53 (Reuters, 2020). In 2019, shares outstanding amounted to 4.250 bn with a closing price at the end of fiscal 2019 (26.07.2019) of \$ 56.53 (Reuters, 2020). The share price has increased by \$ 26, which led to a higher market value of the company.

To test the impact of the control variable on Tobin's Q, Sales Growth was calculated and showed a growth of 5.40%. This could mean that Tobin's Q was not only positively influenced by the executive experience, but also by a growth in sales.

In conclusion, one can say that the longer-tenured Charles Robbins has probably impacted Tobin's Q positively since Q has increased compared to 2016. It is, however, also possible that the increase in Tobin's Q was caused by a growth in sales.

<i>Cisco Systems, Charles H. Robbins</i>	ROA	Tobin's Q
fiscal 18	$\frac{\$ 0,110}{\$ 108,784} * 100 = 0.11\%$	$\frac{\$ 196,418+(20,331+5,238)}{\$ 108,784} = 2.04$
fiscal 19	$\frac{\$ 11,621}{\$ 97,793} * 100 = 11.88\%$	$\frac{\$ 240,253+(14,475+5,998)}{\$ 97,793} = 2.67$

<i>Cisco Systems, Charles H. Robbins</i>	Leverage	Sales Growth
fiscal 18	$\frac{\$ 5,238+20,331}{\$ 108,784} * 100 = 23.50\%$	-
fiscal 19	$\frac{\$ 10,191+14,475}{\$ 97,793} * 100 = 25.22\%$	$\frac{\$ 51,904-49,330}{\$ 49,330} * 100 = 5.22\%$

**Table 9: Cisco Systems, impact executive busyness on ROA and Tobin's Q**

Charles H. Robbins took over the role of the Chairman of the Board on December 2017, which means that CEO duality was partly given in fiscal 2018 and completely given in fiscal 2019. According to Peni, CEO duality has a positive impact on both ROA and Tobin's Q, which is partly the case for Cisco Systems. ROA and Tobin's Q both increased in 2019 compared to 2018. The market value of 2018 was calculated as shares outstanding (4.614 bn) multiplied by the closing price of fiscal 2018 (27.07.2018) of \$ 42.57 (Reuters, 2020). Compared to 2018, the market value of 2019 was higher, whereas long-term debt and total assets were less. ROA of 2019 was higher because of lower total assets, which is again due to the fact that Cisco Systems has decreased its investments. Investments in 2018 amounted to \$ 37,614 M, whereas they amounted to \$ 21,663 M in 2019. Moreover, net income was significantly higher in 2019, which had a strong positive impact on ROA. Net income in 2018 was very low due to "provision for income taxes" in the consolidated statements of operations, which amounted to \$ 12,929 M. This high number was due to a \$ 10.4 bn charge related to the Tax Cuts and Jobs Act (Cisco, 2018), which was signed into law on December 22, 2017 by U.S. President Donald Trump (Floyd, 2020). Cisco's usual figure for "provision for income taxes" is \$ 2,900 M. Since 2018 was an extraordinary situation for Cisco Systems,

it is very probable that ROA has not increased because of CEO duality, but because Cisco Systems has passed this situation.

Again, the control variable Leverage was used to see whether ROA might have been even higher. Leverage showed a slight increase in 2019, which means that ROA was negatively impacted by this development. Without the increase in Leverage, ROA might have been even higher. The second control variable Sales Growth was calculated to check whether an increase in sales caused a higher Tobin's Q. Sales increased by 5.22%, which could mean that the increase in Tobin's Q is not necessarily due to CEO duality.

In conclusion, one can observe that it is probable that Robbins' executive busyness has influenced Tobin's Q of Cisco Systems positively. However, it is not possible to state that Charles Robbins has influenced ROA positively since 2018 has been an extraordinary situation.

## **5.2 Home Depot**

Home Depot, Inc. is a home improvement retailer that sells building materials and home improvement products. It operates The Home Depot stores, which are full-service, warehouse-style stores with a wide assortment of building materials, home improvement products and garden products. Moreover, they provide a number of services, including installation services for various kinds of products (Forbes, 2019).

The current CEO of Home Depot is Craig A. Menear and he is currently 61 years old (Reuters, 2020). He took the role of the CEO in November 2014 and was moreover elected Chairman of the Board in February 2015 (The Home Depot, w.y.). To test whether Menear's executive age and executive experience have an impact on the performance indicators, the indicators of 2015 and 2018 will be compared to each other. Even if Menear was elected Chairman of the Board, it is not possible to assess the impact of CEO duality on firm performance since there is no period without CEO duality that could be compared to a period with CEO duality. To test whether Peni's findings can be applied to Home Depot and its CEO, the figures for 2015 and 2018 will now be provided and analyzed. The figures, given in millions, will be taken from the annual reports of 2015 and 2018 provided by Home Depot itself.

<i>Home Depot, Craig A. Menear</i>	Executive age	ROA	Leverage
fiscal 15	56	$\frac{\$ 7,009}{\$ 42,549} * 100 = 16.47\%$	$\frac{\$ 350+20,888}{\$ 42,549} * 100 = 49.91\%$
fiscal 18	59	$\frac{\$ 11,121}{\$ 44,003} * 100 = 25.27\%$	$\frac{\$ 1,339+26,807}{\$ 44,003} * 100 = 63.96\%$

**Table 10: Home Depot, impact executive age on ROA**

When comparing the ROA of 2015 and 2018, it is obvious that ROA significantly increased by 8.8 percentage points. The ROA of 2018 shows that Home Depot used its total assets even more efficient than in 2015 to generate earnings. ROA was higher in 2018 because of a higher net income as total assets were nearly the same. The net income, stated as net earnings in the annual reports, has increased because of higher net sales. Net sales amounted to \$ 88,519 M in 2015 and increased by \$ 19,684 M, amounting to \$ 108,203 M in 2018. As mentioned in the theoretical part, older CEOs tend to take limited strategic actions to avoid additional risk. However, this can only be partly supported here. In 2018, Home Depot had nine store locations in Mexico and four store locations in the U.S. more than in 2015. Opening stores in new locations goes along with a certain risk that Craig A. Menear is still willing to take, even if he has a higher executive age in 2018. Furthermore, Home Depot has initiated several changes in 1,300 stores that are certainly linked to high investments. The theory also proposes that older CEOs tend to avoid larger acquisitions, and this can be seen here. In 2015, Home Depot acquired Interline for \$ 1,700 M. In 2018, the payments for acquired businesses amounted to \$ 21 M, which is a significant decrease compared to the costly acquisition in 15'.

To test whether ROA might have been even higher, it is necessary to provide the calculations for Leverage as well. As already known, Leverage has a negative impact on ROA, so the higher Leverage is, the lower ROA gets. In the case of Home Depot, Leverage significantly increased in 2018, which means that Leverage influenced ROA negatively in 2018. This, however, also means that ROA is not higher because of a lower Leverage, but very probable because of a higher executive age.

In conclusion, one can assume that Craig Menear's higher executive age has, as proposed by Peni, a positive impact on firm performance.

<i>Home Depot, Craig A. Menear</i>	<b>Executive experience</b>	<b>Tobin's Q</b>	<b>Sales Growth</b>
fiscal 15	1 year + 3 months	$\frac{\$ 157,452 + (20,888 + 77)}{\$ 42,549} = 4.19$	-
fiscal 18	4 years + 3 months	$\frac{\$ 203,729 + (26,807 + 1,056)}{\$ 44,003} = 5.26$	$\frac{\$ 108,203 - 88,519}{\$ 88,519} * 100 = 22.24\%$

**Table 11: Home Depot, impact executive experience on Tobin's Q**

Tobin's Q increased significantly in 2018 compared to 2015, which might be due to the fact that Craig Menear is more experienced. Tobin's Q in 2018 shows that the company was even more overvalued than it was in 2015. This means that Home Depot's shares are rather unfavorable for investors, because the company's shares might sell themselves for more than they are actually worth and trading with these shares is therefore riskier. Compared to 2015, the market value was higher in 2018, such as long-term debt and the current portion of long-term debt. The market value in 2018 was higher because of a higher share price. In 2018, Home Depot had 1.105 bn shares outstanding and a closing price at the end of fiscal 2018 (01.02.2019) of \$ 184.37 (Reuters, 2020). In 2015, shares outstanding amounted to 1.252 bn with a closing price at the end of fiscal 2015 (29.01.2016) of \$ 125.76 (Reuters, 2020). The share price has increased by \$ 58.61, which led to a higher market value of the company. To test the impact of the control variable on Tobin's Q, Sales Growth was calculated, and it showed a significant growth of 22.24%. This could mean that Tobin's Q is only higher because of the significant increase in sales and not higher because of the longer-tenured Menear.

In conclusion, one can say that the longer-tenured Craig Menear might have impacted Tobin's Q positively.

### **5.3 Procter & Gamble**

Procter & Gamble Co. engages in the provision of branded consumer packaged goods to its consumers. It offers its products in various segments, including Beauty, Hair, and Personal; Grooming; Health Care; Fabric Care and Home Care; and Baby, Feminine and Family Care. Many brands that are popular amongst consumers, such as Oral-B, Braun, Head & Shoulders and Pampers, all belong to Procter & Gamble (Forbes, 2019).

The current CEO of Procter & Gamble is David S. Taylor and he is currently 61 years old (Reuters, 2020). He took the role of the CEO in July 2015 (LinkedIn, w.y.) and was moreover elected Chairman of the Board at the end of fiscal 2016 (Bloomberg, w.y.). To test whether Taylor's executive age and executive experience have an impact on the performance indicators, the indicators of 2016 and 2019 will be compared to each other. As Taylor was elected Chairman of the Board, it is possible to test the impact of his executive busyness on firm performance. In order to do so, ROA and Tobin's Q of 2016 and 2017 will be compared to each other. To test whether Peni's findings can be applied to Procter & Gamble and its CEO, the figures for 2016, 2017 and 2019 will now be provided and analyzed. The figures, given in millions, will be taken from the annual reports of 2016, 2017 and 2019 provided by Procter & Gamble itself.

<i>P&amp;G, David S. Taylor</i>	Executive age	ROA	Leverage
fiscal 16	57	$\frac{\$ 10,604}{\$ 127,136} * 100 = 8.34\%$	$\frac{\$ 11,653+18,945}{\$ 127,136} * 100 = 24.07\%$
fiscal 19	60	$\frac{\$ 3,966}{\$ 115,095} * 100 = 3.45\%$	$\frac{\$ 9,697+20,395}{\$ 115,095} * 100 = 26.15\%$

**Table 12: Procter & Gamble, impact executive age on ROA**

When comparing the ROA of 2016 and 2019, it is obvious that ROA has decreased by 4.89 percentage points. The ROA of 2019 shows that Procter & Gamble used its total assets less efficient than in 2016 to generate earnings. ROA was lower in 2019 because of a significant decline in net income. The net income, stated as net earnings in the annual reports, has decreased because of a new position in the consolidated statements of earnings of 2019. "Goodwill and indefinite lived intangibles impairment charges" amounted to \$ 8,345 M, which led to a lower operating income and therefore to a lower net income. These impairment charges were caused by a write down of the value of Procter & Gamble's Gillette brand. The value of Gillette decreased by \$ 8,345 M because of currency devaluations and a lower shaving frequency (Lucas, 2019). The theoretical part suggests that older CEOs tend to avoid larger acquisitions, which is not the case here. In 2016, cash used to acquire other companies amounted to \$ 186 M, whereas it amounted to \$ 3,945 M in 2019. This shows that Taylor is willing to use more cash to acquire companies than he was in 2016, even if he is older. Furthermore, the theory also suggests that older CEOs spend less money on Research and Development, which is the case here. In 2016, R&D expenses amounted to



1,879 and in 2019 to 1,861. However, when comparing the R&D expenses of the last five years, it becomes clear that no matter how old the current CEO is, R&D expenses amount to almost the same every year, with the highest R&D expense being 1,991 in 2015.

The control variable Leverage, used to test whether it might have impacted ROA negatively, showed only a small increase of 2.08 percentage points. In this case, the main factor that influenced ROA negatively was not the control variable, but the write down of Gillette's value. It might be that ROA would have been higher in 2019 without the impairment charges of \$ 8 bn. As mentioned earlier, other factors can influence the performance of a company and for Procter & Gamble, the main factor is the write down.

In conclusion, it is not possible to confirm or deny that Taylor's executive age has a positive impact on firm performance.

<i>P&amp;G, David S. Taylor</i>	Executive experience	Tobin's Q	Sales Growth
fiscal 16	1 year	$\frac{\$ 226,193 + (18,945 + 2,760)}{\$ 127,136} = 1.95$	-
fiscal 19	4 years	$\frac{\$ 274,344 + (20,395 + 3,388)}{\$ 115,095} = 2.59$	$\frac{\$ 67,684 - 65,299}{\$ 65,299} * 100 = 3.65\%$

**Table 13: Procter & Gamble, impact executive experience on Tobin's Q**

Tobin's Q increased in 2019 compared to 2016, which might be due to the fact that David S. Taylor is more experienced. Tobin's Q in 2019 shows that the company was even more overvalued than it was in 2016. This means, as for Cisco Systems and Home Depot, that P&G's shares are rather unfavorable for investors. Compared to 2016, the market value was higher in 2019, such as long-term debt and the current portion of long-term debt. Total assets, however, decreased in 2019. The market value in 2019 was higher because of a higher share price. In 2019, Procter & Gamble had 2.502 bn shares outstanding and a closing price at the end of fiscal 2019 (28.06.2019) of \$ 109.65 (Reuters, 2020). In 2016, shares outstanding amounted to 2.668 bn with a closing price at the end of fiscal 2016 (27.06.2016) of \$ 84.78 (Reuters, 2020). The share price has increased by \$ 24.87, which led to a higher market value of the company.

To test the impact of the control variable on Tobin's Q, the growth in sales was calculated, which amounted to 3.65%. Since Sales Growth has a positive impact on Tobin's Q, it might be that Tobin's Q has only increased because of a growth in sales.

In conclusion, one can say that the longer-tenured David Taylor might have impacted Tobin's Q positively.

<i>P&amp;G, David S. Taylor</i>	ROA	Tobin's Q
fiscal 16	$\frac{\$ 10,604}{\$ 127,136} * 100 = 8.34\%$	$\frac{\$ 226,193+(18,945+2,760)}{\$ 127,136} = 1.95$
fiscal 17	$\frac{\$ 15,411}{\$ 120,406} * 100 = 12.80\%$	$\frac{\$ 222,233+(18,038+1,676)}{\$ 120,406} = 2.01$

<i>P&amp;G, David S. Taylor</i>	Leverage	Sales Growth
fiscal 16	$\frac{\$ 11,653+18,945}{\$ 127,136} * 100 = 24.07\%$	-
fiscal 17	$\frac{\$ 13,554+18,038}{\$ 120,406} * 100 = 26.24\%$	$\frac{\$ 65,058-65,299}{\$ 65,299} * 100 = - 0.37\%$

**Table 14: Procter & Gamble, impact executive busyness on ROA and Tobin's Q**

David S. Taylor took over the role of the Chairman of the Board at the end of fiscal 2016, which means that CEO duality is given since fiscal 2017. According to Peni, CEO duality has a positive impact on both ROA and Tobin's Q, which is the case for Procter & Gamble. Tobin's Q was higher in 2017, which indicates that the company was more overvalued than in 2016. There was, however, only a slight increase in Tobin's Q. Compared to 2016, market value, total assets and current portion of long-term debt decreased, whereas long-term debt was nearly the same in 2017. The market value of 2017 was calculated as shares outstanding (2.550 bn) multiplied by the closing price of fiscal 2017 (26.06.2017) of \$ 87.15 (Reuters, 2020). ROA in 2017 was higher because of lower total assets, which was due to the balance sheet position "current assets held for sale" (\$ 7,185 M) that is no longer available in 2017. Again, the control variable Leverage was used to see whether ROA might have been even higher. Leverage showed a slight increase in 2017, which means that ROA was negatively impacted by this development. Without the increase in Leverage, the executive busyness of Taylor might have had an even bigger impact on ROA. The second control variable Sales Growth was calculated to check whether an increase in revenues might have led to a higher Tobin's Q, which is, however, not the case for P&G. Sales have declined by 0.37%,

negatively influencing Tobin's Q. This, in turn, means that Tobin's Q is very probable higher because of Taylor's executive busyness.

In conclusion, one can observe that it is very probable that Taylor's executive busyness influences the ROA of Procter & Gamble positively. Moreover, it is also possible that Tobin's Q is positively impacted by CEO duality.

#### 5.4 Johnson & Johnson

Johnson & Johnson engages in research and development, manufacture and sale of personal care hygienic products, pharmaceuticals and surgical equipment. The company operates through the following business segments: Consumer (e.g. baby care, skin care and wound care), Pharmaceutical (e.g. anti-infective and antipsychotic products) and Medical Devices (e.g. neurological and infection prevention products) (Forbes, 2019).

The current CEO of Johnson & Johnson is Alex Gorsky and he is currently 58 years old (Reuters, 2020). He took the role of the CEO in April 2012 and was moreover elected Chairman of the Board in December 2012 (IBM, w.y.). To test whether Gorsky's executive age and executive experience have an impact on the performance indicators, the indicators of 2014 and 2019 will be compared to each other. Even if Gorsky was elected Chairman of the Board, it is not possible to assess the impact of CEO duality on firm performance since there is no period without CEO duality that could be compared to a period with CEO duality. Nevertheless, it is possible to test the impact of Gorsky's external board seat on the performance indicator Tobin's Q. Gorsky is since 2014 part of the board of directors of International Business Machines Corporation, better known as IBM (IBM, w.y.). Therefore, it will be tested whether the external board seat has a negative impact in fiscal 2015, compared to fiscal 2014. To test whether Peni's findings can be applied to Johnson & Johnson and its CEO, the figures for 2014, 2015 and 2019 will now be provided and analyzed. The figures, given in millions, will be taken from the annual reports of 2014, 2015 and 2019 provided by Johnson & Johnson itself.

<i>Johnson &amp; Johnson, Alex Gorsky</i>	Executive age	ROA	Leverage
fiscal 14	52	$\frac{\$ 16,323}{\$ 131,119} * 100 = 12.45\%$	$\frac{\$ 11,271+15,122}{\$ 131,119} * 100 = 20.13\%$
fiscal 19	57	$\frac{\$ 15,119}{\$ 157,728} * 100 = 9.59\%$	$\frac{\$ 9,746+26,494}{\$ 157,728} * 100 = 22.98\%$

Table 15: Johnson & Johnson, impact executive age on ROA

When comparing the ROA of 2014 and 2019, it is obvious that ROA decreased by 2.86 percentage points. The ROA of 2019 shows that Johnson & Johnson used its total assets less efficient than in 2015 to generate earnings. ROA was lower in 2019 because of higher total assets since the net income was nearly the same. Total assets were higher in 2019 because of two balance sheet positions that increased compared to 2014. These positions are: “Intangible assets, net” (2014: \$ 27,222 M vs 2019: \$ 47,643 M) and “Goodwill” (2014: \$ 21,832 M vs. 2019: \$ 33,639 M). The reason for the increase in “intangible assets, net” was a higher amount of “patents and trademarks – gross”, which increased by \$ 27,560 M. “Goodwill” increased because of a higher goodwill of Johnson & Johnson’s segments with the highest increase in the pharmaceutical segment (2014: \$ 2,626 M vs. 2019: \$ 9,169 M). The theoretical part suggests that older CEOs tend to avoid larger acquisitions, which is not the case here. The consolidated statements of cash flows of 2014 show that \$ 2,129 M were used for acquisitions. The same position in the consolidated statements of cash flows of 2019 amounted to \$ 5,810 M, which is an increase compared to 2014. This clearly shows that Gorsky is still willing to acquire new businesses, even if he has a higher executive age in 2019.

The control variable Leverage, used to test whether it might have impacted ROA negatively, showed a small increase of 2.85 percentage points. This means that the higher executive age of Gorsky could have had a positive impact on ROA without the increase in Leverage.

In conclusion, the higher executive age of Alex Gorsky has not impacted ROA positively, which can, however, be due to the fact that Leverage has increased.

<i>Johnson &amp; Johnson, Alex Gorsky</i>	Executive experience	Tobin’s Q	Sales Growth
fiscal 14	2 years + 8 months	$\frac{\$ 295,744 + (15,122 + 3,638 + 7)}{\$ 131,119} = 2.40$	-
fiscal 19	7 years + 8 months	$\frac{\$ 385,509 + (26,494 + 1,202 + 1,100)}{\$ 157,728} = 2.63$	$\frac{\$ 82,059 - 74,331}{\$ 74,331} * 100 = 10.40\%$

**Table 16: Johnson & Johnson, impact executive experience on Tobin's Q**

Tobin’s Q increased in 2019 compared to 2014, which might be due to the fact that Alex Gorsky is way more experienced. Tobin’s Q in 2019 shows that the company was even more overvalued than it was in 2014. This means, as for every other company that was tested in the empirical part, that Johnson & Johnson’s shares are rather unfavorable for investors.

Compared to 2014, the market value was higher in 2019, such as long-term debt, the current portion of long-term debt and total assets. Only notes payable decreased compared to 2014. The market value in 2019 was higher because of a higher share price. In 2019, Johnson & Johnson had 2.645 bn shares outstanding and a closing price at the end of fiscal 2019 (27.12.2019) of \$ 145.75 (Reuters, 2020). In 2014, shares outstanding amounted to 2.815 bn with a closing price at the end of fiscal 2014 (26.12.2014) of \$ 105.06 (Reuters, 2020). The share price has increased by \$ 40.69, which led to a higher market value of the company. To test the impact of the control variable on Tobin's Q, the growth in sales was calculated, which amounted to 10.40%. Since Sales Growth has a positive impact on Tobin's Q, it might be that Tobin's Q has only increased because of a growth in sales.

In conclusion, one can say that the longer-tenured Alex Gorsky might have impacted Tobin's Q positively.

<i>Johnson &amp; Johnson, Alex Gorsky</i>	Tobin's Q	Sales Growth
fiscal 14	$\frac{\$ 295,744+(15,122+3,638+7)}{\$ 131,119} = 2.40$	-
fiscal 15	$\frac{\$ 284,740+(12,857+7,004+2,104)}{\$ 133,411} = 2.30$	$\frac{\$ 70,074-74,331}{\$ 74,331} * 100 = - 5.73\%$

**Table 17: Johnson & Johnson, impact executive busyness on Tobin's Q**

Tobin's Q decreased in 2015 compared to 2014, which might be due to Alex Gorsky's external board seat. Tobin's Q in 2015 shows that the company was less overvalued, which makes Johnson & Johnson's shares more attractive for possible investors. Compared to 2014, the market value was lower, such as long-term debt. By contrast, notes payable, the current portion of long-term debt and total assets increased. The market value in 2015 was lower because of a lower share price. In 2015, Johnson & Johnson had 2.772 bn shares outstanding and a closing price at the last day of 2015 of \$ 102.72 (Reuters, 2020). Since there is no data available for the closing price at the end of fiscal 2015 (03.01.2016) the nearest possible date and its closing price were chosen. The share price has decreased by \$ 2.34, which led to a lower market value in 2015.

To test the impact of the control variable on Tobin's Q, the growth in sales was calculated, which showed a decline of 5.73%. A decline in sales has a negative impact on Tobin's Q, which might mean that Tobin's Q is not necessarily lower because of Gorsky's external board seat, but because of a decline in sales.

According to Peni, Tobin's Q should be worse in 2015 as Gorsky has an external board responsibility and this is the case here.

## 5.5 Summary of test

The empirical part shows that the performance indicators behave in almost all cases as proposed by Emilia Peni, which might lead to the conclusion that the chosen CEO characteristics truly have a strong impact on firm performance. It is, however, impossible to assess whether the indicators are solely influenced by the tested CEO characteristics, or whether external factors and/or the control variables Leverage, and Sales Growth have had a stronger impact on ROA and Tobin's Q.

Peni proposes that older CEOs have a positive impact on ROA, which is, however, only the case for Cisco Systems and Home Depot. Procter & Gamble and Johnson & Johnson do not support Peni's finding since their ROA has decreased. Especially for Procter & Gamble, it becomes clear that external factors can have a more significant impact on ROA than a CEO's higher executive age. In 2019, Procter & Gamble reported impairment charges that amounted to \$ 8,345 M, caused by a write down of Gillette's value. These impairment charges led to a lower net income, which consequently led to a lower ROA. Johnson & Johnson's ROA was, on the other hand, negatively influenced by an increase in total assets, caused by higher intangible assets and a higher goodwill.

The theoretical part also states that a CEO's executive experience has a positive impact on the firm performance indicator Tobin's Q, which cannot be assessed clearly. All four companies showed a higher Tobin's Q, which might mean that their longer-tenured CEOs have really impacted Tobin's Q positively. Nevertheless, all four companies reported a growth in sales and as known from the theoretical part, Sales Growth has a positive impact on Tobin's Q. Moreover, the impact of Sales Growth on Tobin's Q is given at a 0.01 significance level, which means that there is a 99% chance that Sales Growth has a positive impact on Tobin's Q. The impact of the executive experience on Tobin's Q, on the other hand, is given at a 0.05 significance level, which means that there is only a 95% chance that the executive experience has a positive impact on Tobin's Q. It is therefore very probable that Tobin's Q has increased because of a growth in sales and not because of longer-tenured CEOs. This means that it is not possible to state that Peni's finding can really be seen.

Eventually, the impact of a CEO's executive busyness could be tested on three companies. According to Peni, CEO duality has a positive impact on ROA and Tobin's Q, whereas

external board responsibilities have a negative impact on Tobin's Q. CEO duality was tested on Cisco Systems and Procter & Gamble. Both showed an increase in ROA and an increase in Tobin's Q. Nevertheless, it is not possible to say that the executive busyness of Cisco Systems' CEO has influenced ROA positively. ROA was significantly low in the fiscal year before CEO duality, which was due to an extraordinary amount of "provision for income taxes", which was related to the Tax Cuts and Jobs Act. ROA in the year of CEO duality was only higher because net income was not influenced by any extraordinary amount anymore. Tobin's Q showed an increase in the year of CEO duality. However, Cisco Systems reported a growth in sales in the year of CEO duality, which could again mean that Tobin's Q was only higher because of the growth in sales. Eventually, Tobin's Q of Johnson & Johnson showed a decrease in the year of Alex Gorsky's external board responsibility. However, a decline in sales was reported, which could mean that Tobin's Q was not necessarily influenced by an external board responsibility, but by a decline in sales.

All in one, it becomes very clear that it is impossible to confirm Peni's findings regarding the impact, even if almost all performance indicators have behaved as proposed. The main goal was to see whether the impact on the firm performance indicators is as strong as proposed in the theoretical part. The empirical part results in stating that the chosen CEO characteristics might impact the performance of U.S.-American companies, but that the impact is inferior to the impact of other variables, such as external influences and the control variables Leverage and Sales Growth. Since Peni's study is only focusing on the mentioned CEO characteristics and neglecting external influences, the empirical part ends by stating that a CEO's executive age, executive experience and executive busyness has no strong impact on the performance of U.S.-American firms. From an investors point of view, it is not recommendable to solely rely on the statistical findings since it is not clear what really impacts the performance of a firm. This bachelor's thesis sees it as more important to focus on the company as a whole and to include external factors than solely base an investment decision on a CEO and his characteristics.

## **6 Summary**

The final chapter of the bachelor's thesis should provide a summary of the theoretical and empirical part, as well as a critical examination regarding the findings, information about the reliability and validity and a final conclusion.

## 6.1 Summary of research

A CEO, who is the person with the highest rank in a business company, has certain characteristics that might affect the business company's performance positively or negatively. This bachelor's thesis focused on a CEO's executive age, executive experience and executive busyness and linked different behaviors to the single characteristics. Compared to younger CEOs, older CEOs tend to take limited strategic actions, they might classify larger acquisitions as unfavorable since they can go along with a higher risk and they tend to keep their upcoming retirement in mind, which means that short-term projects are preferred. The executive experience means whether a CEO is longer-tenured or still in his early tenure. According to the theory, longer-tenured CEOs are unwilling to initiate new changes, whereas CEOs in their early tenure try to exert their power by making major changes within the company, such as implementing a new strategy. The executive busyness, measured through CEO duality, can be approached through two different theories, namely agency and stewardship theory. The agency theory proposes that CEO duality diminishes the power of the board of directors and hinders the alignment of both the interests of the CEO and the shareholders. The stewardship theory, on the other hand, proposes that CEO duality ensures more authority and leads to an even higher motivation to act in accordance with the owners interests and goals. Investors who analyze an investment option by looking at the company's CEO and his characteristics, should necessarily keep in mind that not every CEO acts according to the theory. Especially while analyzing the CEOs for the empirical part, it became clear that it is not possible to generalize the theoretical findings. By contrast to the presented theory, older CEOs, for instance, are still willing to acquire new businesses, they implement changes in their organization, even if these changes are linked to high investments and they are still willing to improve the existing business to satisfy the company's stakeholders even more.

Looking at certain CEO characteristics and the behavior that is linked to these, was only one part of this bachelor's thesis. The main part consisted of analyzing a study that has already examined the relationship between the chosen CEO characteristics and firm performance and examining how strong the impact of these characteristics on firm performance is. The analysis of the relationship was approached by using Emilia Peni's study and her statistical findings. Firm performance was defined as ROA and Tobin's Q and two control variables, namely Leverage and Sales Growth were used to test whether firm performance might be influenced by other factors except the mentioned CEO characteristics. Peni's study reports that a relationship between a CEO's executive age, executive experience and executive



busyness and the firm performance in the United States can be seen. Moreover, the study proposes that a CEO's executive age has a positive impact on ROA, such as the executive experience, which has a positive impact on Tobin's Q. A CEO's executive busyness has in the case of CEO duality a positive impact on both ROA and Tobin's Q. External board responsibilities, however, have a negative impact on Tobin's Q. All in one, the incorporated study proposes that a CEO's executive age, executive experience and executive busyness strongly impacts the firm performance in the United States of America. Solely looking at the theoretical part and its suggestions, it is advisable for investors to consider a CEO's executive age, experience and busyness when evaluating an investment option.

To test how strong the impact of the chosen CEO characteristics on firm performance truly is, a test with four S&P 500 companies was conducted and the results showed that it is not possible to confirm Peni's findings regarding the impact. While conducting the test, it soon became apparent that one has to have a closer look at the financial statements of a company in order to say whether only the characteristics have influenced the performance indicators. It is still impossible to say whether ROA, for instance, has really increased because of a higher executive age or if other factors have influenced the performance positively. It became very clear that it is a necessity to look out for external factors that could influence the firm's operations and consequently the firm's performance. It moreover showed that it is not possible to say what really caused a change in the performance indicators, if it was, as suggested, the characteristics or rather the control variables. After conducting the test, this bachelor's thesis suggests that investors should not attach great importance to the characteristics of a CEO, but rather look out for external factors that can truly influence the performance of a firm.

Summarized, one can say that from a theoretical point of view, a CEO's executive age, executive experience and executive busyness strongly impacts the firm performance in the United States of America. The practical test, however, does not support the proposed strong impact and the reasons for this will be discussed in the following chapter.

## **6.2 Critical examination**

There are various reasons why the empirical result cannot support the study's result and clearly state that the chosen CEO characteristics strongly impact the firm performance. First of all, as Peni already states in her limitations, there might be other CEO characteristics that have more impact on firm performance than the introduced ones. Other characteristics, e.g.

gender, education and origin might impact firm performance more than the age, experience and busyness. It could moreover be that the gender, for instance, has a statistically stronger impact on ROA than the executive age, which makes it impossible to say to which degree what characteristic impacted the firm performance indicator. It is therefore necessary to not focus on only a limited number of characteristics, but to analyze all possible characteristics and to assess thoroughly which ones have what impact on firm performance. Moreover, it might be that a CEO has an impact on firm performance, but the chosen indicators in Peni's study are not the right representatives for the performance. There are various studies that report about the misuse of Tobin's Q as a performance indicator. Robert P. Bartlett and Frank Partnoy from the University of California, report fifty pages long about the misuse of Tobin's Q as an indicator for firm value. This raises the question whether it makes sense to test the impact of a CEO's executive experience and busyness on Tobin's Q if Tobin's Q is questioned to be a good firm performance indicator. Eventually, the study neglects external factors that can influence the performance of a company positively or negatively. While conducting the empirical part, it became obvious that certain developments have more impact on the performance indicators than any characteristics. New legislations, like the enactment of the Tax Cuts and Jobs Act, social changes, like changes in consumer behavior, which for instance caused a write down of Gillette's value, or outstanding situations, with the most recent situation being the Corona virus, all have a positive or negative impact on the performance indicators. The empirical test clearly showed that it is impossible to say to which degree the characteristics have influenced the firm performance of U.S.-American companies.

### **6.3 Reliability and validity**

The reliability of this bachelor's thesis is high, but limited. The theoretical part was based on several studies and to answer the main research question from a theoretical point of view, a scientific study, that was moreover published in a journal, was used. This means that the theoretical part is highly reliable since statistically proven information were used. The empirical part, on the other hand, used the statistically proven information and obtained the financial numbers for determining the performance indicators from the companies' annual reports. Annual reports are published by the company itself and their correctness is checked by external auditors, which makes the provided numbers highly reliable.

The reliability is limited since the statistical findings and the empirical result can solely be applied to the United States and to companies that are listed on the S&P 500 index.

Furthermore, incorporating more control variables, except Leverage and Sales Growth, could have led to another result as well as testing the relationship on more than four companies. It could be that, by coincidence, only the four chosen companies do not support the statistical findings and other companies would support them.

The presented outcome of this bachelor's thesis should be valid since the study was correctly analyzed and the empirical part was based on the study's information. Nevertheless, it is difficult to determine whether the result is truly valid, as there are no sources that have tested the relationship in the same way as the empirical part.

## 6.4 Conclusion

In conclusion, it is not possible to state that a CEO's executive age, executive experience and executive busyness has a strong impact on the firm performance in the United States of America. There might be, as proposed by Emilia Peni, an impact on firm performance, however, a CEO and his characteristics are inferior to other factors that have definitely a stronger impact on the firm performance. External influences will indisputably always strongly influence a firm's performance positively or negatively, no matter how old, experienced or busy the current CEO is. Especially after conducting the empirical part, this bachelor's thesis is of the opinion that the introduced CEO characteristics have a rather weak impact on the performance of U.S.-American companies.

This bachelor's thesis was focusing on the United States of America, even though European countries, such as Germany and Finland, would have been more natural. The CEO in the United States is *the* representative of a company and is more and more the investigated subject of various studies. European countries, such as the mentioned ones, put less emphasis on the CEO and that is why less research has been done so far. The lack of statistically proven information has therefore led this bachelor's thesis to focus primarily on the United States of America in order to be able to answer the main research question. This thesis can only state that certain CEO characteristics have no strong impact on the firm performance in the United States of America. It could be that in Germany, for instance, the impact of certain characteristics is more evident than in the U.S. It is, however, for sure that a CEO's characteristics cannot outweigh the influence of external factors, no matter in which country the impact is examined.

When it comes to the investors and whether they should keep the relationship and impact in mind, this bachelor's thesis proposes to base an investment decision not on the statistical

findings, but rather on external factors that could impact the firm's performance and consequently the investor's return on investment. Additionally, investors should use proven ratios that are common in the financial world, such as the P/E Ratio, rather than examining a CEO and his characteristics. If investors still want to take a possible impact of certain CEO characteristics on firm performance into consideration, it is recommendable to question the study and its chosen approach. As seen in the critical examination, not every chosen performance indicator is the right one to represent firm performance and investors should make further research on whether the study's approach is the right one to examine the relationship.

All in one, it is not impossible that a CEO's executive age, executive experience and executive busyness has an impact on the firm performance in the United States of America. However, it is for sure that this impact is rather weak and moreover inferior to the impact of other influences.

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