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WHAT WE CAN FIND OUT FROM CEO LETTERS?

Master Thesis in
Accounting and Auditing

VAASA 2017

TABLE OF CONTENTS

LIST OF FIGURES AND TABLES	5
1. INTRODUCTION	9
1.1 Background	10
1.2 Objective of This Study	14
1.3 Structure	15
1.4 The key terms of this study	16
1.4.1 Sustainability	17
1.4.2 Sustainability reporting	18
2. SUSTAINABILITY	20
2.1 The development of sustainability	20
2.2 Triple bottom line	21
3. SUSTAINABILITY REPORTING	24
3.1 Reporting in general	24
3.2 GRI –guidelines	28
3.3 Theory of accountability, legitimacy and impression of management	31
3.4 CEO letters in reports	34
3.4.1 Optimism of the rhetoric	36
3.4.2 Certainty of the rhetoric	37
3.4.3 Readability	39
4. DATA & RESEARCH METHOD	42
4.1 Data	42
4.2 Method	47

5. THE RESULTS & ANALYSIS	50
5.1 The results of optimism	51
5.2 The results of certainty	55
5.3 The results of readability	58
5.4 Additional analysis	61
6. CONCLUSION	66
6.1 The main results	69
6.2 Limitations of the study	71
6.3 Further research	72
RESOURCES	73
APPENDIX 1. The definitions of terms of formula of certainty	86
APPENDIX 2. The definitions of terms of formula of optimism	89

LIST OF FIGURES AND TABLES

Figure 1. The average age of CEOs by business sectors.	44
Figure 2. The number of CEOs during the reference period.	46
Figure 3. The scores of optimism from the years 2006–2015 (total sample).	52
Figure 4. Gross domestic product of Finland by quarter 2006Q1–2015Q4. (Source Statistics Finland 2017).	52
Figure 5. Ahlstrom Corporation and UPM firms' optimism scores.	54
Figure 6. The scores of certainty from the years 2006–2015 (total sample).	56
Figure 7. Ahlstrom Corporation and UPM firms' certainty scores.	57
Figure 8. The scores of readability from the years 2006–2015 (total sample).	59
Figure 9. Ahlstrom Corporation and UPM firms' readability scores.	60
Figure 10. Optimism -, certainty – and readability scores of non-GRI companies.	61
Table 1. The list of the data that is being used in this study.	43
Table 2. The data of this study annually.	45
Table 3. The results of descriptive analysis.	50
Table 4. Results of independent samples t-test including sustainability reports.	63

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Year of Entering the School: 2016
Year of the Completing the Thesis 2017 **Pages:** 90

ABSTRACT

This study examines the question of what kind of information we can find out from CEO letters. This study makes analogy between annual and sustainability reports. The data identify by a variety of criteria for example are the companies reporting in accordance with the Global Reporting Initiative –guideline or not and the age of CEOs.

The data of this study includes CEO letters which have published in annual and sustainability reports. Data includes reports from 30 Finnish companies which are operating in three sectors, financial services, forest and paper products and energy. The data is from the years 2006 - 2015 as a longitudinal perspective. The results shows as sentiment analysis focus on the use of natural language processing.

The analysis shows that the rhetoric used in CEO letters can change because of many reasons. This study analyses the reasons why the rhetoric used in CEO letters can change over the years. In addition, the difference between the sectors analyze with the t-test shows statistical significant difference between two sectors.

KEYWORDS: sustainability reporting, sentiment analysis, CEO letters

1. INTRODUCTION

Sustainability is a set of social and environmental activities which companies implement on a voluntary basis (European Commission 2001). Sustainability can be divided into three parts: economic, social and environment (Bouten, Everaert, Van Liedekerke, De Moor & Christiaens 2011) which may be the significant challenge to simultaneously manage all the three parts (Epstein, Buhovac & Yuthas 2015). The same challenge have noticed Cegarra-Navarro, Reverte, Gómez-Melero & Wensley (2016) who have studied that the differences between economic and social objectives are important in small and medium-sized companies. They are obviously related to economic objectives and hence the adoption of social and environmental initiatives slower. That way the companies are achieving the economic objectives and they are taking responsibility for them to ensure their own profitability.

Sustainability reporting has increased since Shell Canada published one of the first environmental reports in 1991 (Maharaj & Herremans 2008). Today sustainability reports are one possible communication link between the companies and their internal and external stakeholder groups. Sustainability reporting is way to report non-financial issues of company (Barkemeyer, Comyns, Figge & Napolitano 2014.) Sustainability reports can be a communication link and also form the dialogue between company and stakeholder groups. Greenwood (2007) notes that sustainability reports can be opportunity to stakeholders to participate in the activities of the company. Today dialogue could be a good choice for companies, because stakeholders are more concerned and responsible about environmental and social issues (Brunk & Blümelhuber 2011; Arjaliés & Mundy 2013). Scholarly research in sustainability

field has grown at the same time when number of companies, that report non-financial issues, are growing especially qualitative researches are popular (Comyns, Figge, Hahn & Barkemeyer 2013).

Global Reporting Initiative (later GRI) is organization that publishes guidelines of sustainability reporting. The main point wasn't to encourage to company measure to consider the value of company (Adams 2015.) The key objective was to establish reporting guidelines, according to companies will implement their sustainability reporting. The reporting guidelines is supposed to be a similar model to financial statement reporting. The vision of GRI is to create settle and compare sustainability reports which can be possible by their guidelines (Niskala, Pajunen & Tarna-Mani 2013: 106-111.) The vision of GRI isn't impossible because GRI has been the pioneer of developing the sustainability reports. For example they have created industry-specific guidelines for sustainability reporting. The GRI has recognised that some industries face unique sustainability challenges and reporting needs that require specialized guidance. (Cuganesan, Guthrie & Ward 2010.) That could be one reason why Hrasky (2012) opinions that companies are expected to report according to GRI guidelines if they are seeking moral legitimacy.

1.1 Background

Background includes two main research and numerous other researches. This chapter show the two main researches of this study. The hypotheses of this study are from the research by Barkemeyer et al. (2014) and the other research by Cho,

Roberts & Patten (2010) have some identical issues which Barkemeyer et al. (2014) have confirmed by their own study from Cho et al. (2010) findings.

Cho et al. (2010) have studied the language of corporate environmental disclosure. They have noticed that stakeholder groups have called for environmental information from the companies. Stakeholders can make decisions easier when they are aware of environmental information of companies. Management of companies have a different kind of opinion. Usually management of companies prefer more financial information when making decisions because of that companies can manipulate their information or reveal only what is to be provided. Cho et al. (2010) are focusing on biased language and verbal tone in corporations' environmental disclosures. They have noticed that side of environmental disclosures have not been researched. Their hypotheses development is mostly from research by Merkl-Davies and Brennan (2007) and they have found empirical support to their hypotheses.

The hypotheses of Cho et al. (2010) focus on the amount of certainty and optimism in corporates' environmental disclosures. They are expecting that disclosures of worse environmental performers to exhibit significantly more optimism and significantly less certainty than corporates which are better-performing. Cho et al. (2010) apply two hypotheses which are

1. The optimism exhibited in 10-K report environmental disclosures will be negatively related to firm environmental performance
2. The certainty exhibited in 10-K report environmental disclosures will be positively related to firm environmental performance

Cho et al. (2010) have four criteria for the companies which they chose for their study. For example every companies have to be listed in the 2002 ratings of corporate social and environmental performance complied by KLD Research and

Analytics and their criteria includes also companies fiscal years and other listings. A total of 190 companies met all the criteria. New criteria was that companies have to be environmentally sensitive industries and the size of company. After new criteria's they have 43 companies which participate in the research. The research have contained with US 10-K annual reports which is research data. They test their hypotheses by Diction –software which tests certainty and optimism.

The main results are that the environmental performance of the company is positively associated with the optimism level. That findings support their argument that companies with poorer environmental performance use a more optimistic language in their environmental disclosures. Like that companies strongly focus on reporting only good news and showing their company in the better light than it really is. The findings of Cho et al. (2010) support the Merkl-Davies and Brennan (2007) managerial impression management framework which states that corporate disclosures in order to present a more favourable depiction of their performance. Poorer performing companies report emphatically good news and obfuscate bad news. Environmental measures are negatively related to the certainty scale of the disclosure. They also got support to their certainty –hypothesis from their findings.

Barkemeyer et al. (2014) have studied CEO letters in sustainability reports and annual reports. Their research are asking that can we find out substantive information from the CEO letters or are letters only background noise? The main objective of their study is to find out that can sustainability reports serve as accurate and fair representations of corporate sustainability performance. The questions is linked near to Cho et al. (2010) research whom notice that management of companies prefer more financial information than non-financial information when making decisions.

Barkemeyer et al. (2014) research focus also optimism and certainty. In addition, they are researching readability scores. The hypotheses are derived from previous studies which focus mostly on financial information or financial performance. For example they have found “a link between the degrees of optimism of the rhetoric used” in CEO letters and the financial performance of those companies from the previous studies. They also found that companies with poor performance tends to be less optimistic than those companies with a good expected performance. Same like certainty have lead from previous studies which can deduce that if non-financial information reports have become more balanced and realistic so the degree of certainty should be go down over time. Same reasons when non-financial information have become more balanced and realistic their sustainability performance should have decreased. So readability scores of CEO letters should go down over time. From the previous studies Barkemeyer et al. (2014) are using three hypotheses which are

1. The overall degree of optimism of the rhetoric used in CEO letters of sustainability reports goes down over time
2. The degree of certainty of the rhetoric of CEO letters in sustainability reports on average goes down over time, reflecting a more representative character of corporate sustainability performance of sustainability reporting
3. The overall degree of readability of CEO letters of sustainability reports goes down over time, reflecting more representative character of corporate sustainability performance of sustainability reporting

Their study is a longitudinal which means that empirical data are from the year 2001 to 2010. Empirical data contains sustainability and annual reports which have taken from 34 companies in 3 sectors. A total number of the reports are 548.

They are studying only CEO letters also like Cho et al. (2010). Barkemeyer et al. (2014) are testing the hypotheses by Diction, General Inquirer and Microsoft Word. Diction and General Inquirer give the degrees of optimistic and certainty and Microsoft Word gives the degree of readability. Results have integrated by SPSS and shown as total sample figures, descriptive analysis and T-test.

The results have shown by a sentiment analysis of CEO letters in corporate sustainability reports and corporate financial reports. Three hypotheses and the results are not coincident. Scores for the hypotheses, optimism, certainty and readability, of CEO letters in sustainability reports have increased rather than decreased over time. They noticed that dissemination, professionalization and standardization in sustainability reporting are increasing. One pioneer of that kind of development have been the GRI guidelines. All companies of their study has started to act upon the GRI guidelines. They found in the mining analysis the mechanism which have been identified in the domain of corporate financial reporting from corporate sustainability reporting. They note also that CEO letters are not more balanced or realistic even if the period of study was 10 years. (Barkemeyer et al. 2014).

1.2 Objective of This Study

This study focus on the CEO letters in sustainability reports and annual reports in companies which operates in Finland. The main objectives of theoretical chapters of this study is to understand sustainability and sustainability reporting especially CEO letters in sustainability reports and the guideline of GRI. The main objective of empirical chapter of this study is to figure out what kind of

rhetoric companies, which operates in Finland, use in their CEO letters in sustainability reports? The goal of this thesis is to figure out can we find out some information from CEO letters in sustainability reports? The answer of the question should be find out when this study uses the three hypotheses which are the same with the previous research by Barkemeyer et al. (2014) and a sentiment analysis of the results of research which have made by those hypotheses.

This study focus on companies which have registered their companies in Finland. They can have also operations abroad. Research includes both public limited companies and limited companies. These companies operates in three different sectors which are financial services, energy and forest and paper products. Study separates companies which are using the GRI guideline and those whose don't use GRI guidelines. The study takes a longitudinal perspective so study analyse CEO letters which are in as well sustainability reporting as the annual reports from the year 2006 to the year 2015. Every company hasn't material from every years. From the table 1 we can see the degree of reports.

1.3 Structure

This thesis consists of six chapters which are introduction, sustainability, sustainability reporting, data and research method, the results and analysis and conclusion. The first chapter, introduction, will present the previous studies and the key terms of this study. The second and third chapters are theoretical part of this study. It will show the theory of sustainability and the previous studies of the sustainability. The main issues of sustainability are the sustainability reporting, especially CEO letters in sustainability reports, commonly used

theories in accounting and lastly hypotheses and previous research of them. The objective of theoretical part is to create an overall picture about the sustainability and previous researches.

Data and research method will figure out empirical data and research methods of how the research will execute. It will figure out the limitations of this study also. The results and analysis presents the results of this study. It will present the figures how the scores are varied during the period of this study (the years 2006–2015.) The chapter will indicate the main points of results and the commonalities with the previous studies. The last part, conclusions, considers the results of this study and previous studies. In this part will also evaluate the credibility of this study.

1.4 The key terms of this study

The key terms of this study are sustainability and sustainability reporting so paragraph will figure out the definitions of them. Is worth nothing that corporate sustainability focus on companies' sustainability operations. This study will focus on sustainability in generally, but like reporting perspective this study will focus on sustainability reporting in generally and particularly corporate sustainability reporting.

1.4.1 Sustainability

Sustainability has many different kind of definitions. Patten & Zhao (2014) have taken note of we can't find one right definition of sustainability. Ackerman & Bauer (1976) have defined that sustainability actions happens in companies when they are observing the impacts on the companies function in society. Almost the identical definition is by the Finnish Government. They have defined that sustainability means that companies take responsibility about their operations effects. These companies do something more responsibility than the law of Finland expects. Finland is committed for example guidelines which the OECD and the United Nations have published. In accordance with the decision in principle is that companies operates responsibly voluntarily. (Valtioneuvoston periaatepäätös yhteiskunta- ja yritys vastuusta 2013; European Commission 2001.) Third almost identical definition is by Golub, Lah, & Jancic (2008: 8) so in their opinion the main point of the sustainability "is that no company can work against each other, or separately from, things in society."

Carroll (1991) have defined sustainability differently. The definition is named like "the pyramid of corporate social responsibility." Every company can built the own pyramid. The first step is the economic issues. Company has to be profitable. The second step is to obey the law. The third step is to be ethical and the last one is to be a good corporate citizenship. Company can reach that for example with the philanthropic. That definition include a lot of issues like to be profitable and to be ethical.) Carroll & Buchholtz (2014) search that the four steps can be useful when the companies try to identify their benefits. They have noticed that the meaning of sustainability has broadened.

The same situation have noticed also Dahlsrud (2006) which have analysed the 37 different definitions of sustainability. He has studied definitions by analysing

how many different dimension each definition used. The analysing have done by using the frequency counts from Google. The dimensions were stakeholder, social, economic, voluntariness and environmental. The interesting results is that environmental dimensions was a significantly lower than the other dimensions. Dahlsrud (2006) thought that one explanation of the result can be that for example environmental dimensions was not included early literature of Carroll (1991, 1999).

Sustainability has a lot of different definitions but also the term can be different but the purpose is same. For example sustainability –term has used by studies by Cho & Patten (2013), Barkemeyer et al. (2014) and Cho, Laine, Roberts & Rodrigue (2015.) Also the term “responsibility” has a same purpose. Almost the same terms but they are focus on companies are for example “corporate sustainability” which have used by studies by Cho et al. (2015) and Comyns et al. (2013) and the term “corporate social responsibility” is used by studies by Ackerman & Bauer (1976), Cramer, Jonker & van der Heijden (2004), Golub et al. (2008) and Patten & Zhao (2014). This study uses the term sustainability.

1.4.2 Sustainability reporting

Companies are doing more and more sustainability operations so they want to information that activities to internal and external stakeholders. Sustainability operations have requirement. Organisations need to create clear, user-friendly methodologies how they can measure their sustainability operations (Székely & Knirsch 2005.) In general reports can call by sustainability reports if discuss focus on companies term can be also corporate sustainability reports, corporate responsibility reports or corporate social responsibility reports.

Companies can make the sustainability reports by “the triple bottom line” – principle, which include economic, environmental and social aspects of corporation (Carriga & Melé 2011; Hrasky 2012.) Reporting about social and environmental issues company can enhance company’s transparency and accountability by providing a greater visibility their internal operations (Hopwood 2009). Van Marrewij & Were (2003) have described that responsible activities of companies is a custom-made process. Every companies need to choose their own specific ambition and approach regarding sustainability. That is the way, when sustainability operates should meet the companies aim and intentions and aligned with the companies’ strategies.

Sustainability reporting is becoming more common (Michelon, Pilonato & Riccer 2015) which have created to need for create reporting guidelines. Guidelines allow for the comparability of the sustainability reports. For example comparability has been vision of the GRI (Niskala et al. 2013: 106-111). The GRI is generally recognised the dominant framework. Hrasky (2012) opinions is that companies are expected to report according to GRI guidelines if they are seeking moral legitimacy. Guidelines content still need change for example Adams & Frost (2006, 2008) have noted that after seventeen years, when the organisation founded, the integration of sustainability considerations into mainstream decision making, reporting and performance management has arguably been at best slow and patchy. This study uses the term sustainability reporting. The abbreviation CSR (corporate social responsibility) have used in the tables and figures in this study because of the term is established.

2. SUSTAINABILITY

This chapter will figure out the theory of sustainability how sustainability is evolved and how the sustainability can separate to three parts. Sustainability has been optional choice for companies. European Union have changed that the sustainability reporting is not optional choice to all companies. European Union adjusted the directive which expects that every listed company, which have over 500 employees, revenue is at least 40 million euros or balance is at least 20 million euros, have to report their environmental and social activity. The directive come into force at the latest in 2016, which means that companies have to do their first sustainability –report in 2017 (PE-CONS 47/14.) Implementation of the directive means that sustainability is not optional choice for every companies since the year 2016. That means also that sustainability is become more common.

2.1 The development of sustainability

Sustainability has evolved since the 19th century. The development can be share to three different periods. The first period began when industrialisation developed the 19th century when people moved from the country to centre where were primitive conditions. The owner of factories developed both the factories and the residential area for example they built schools and churches. A lot of people in the same area caused new problems. The environment was polluted which have not scientifically studied. Understanding about the environment was low and the industrialisation were the new way to be rich. (Harmaala & Jallinoja 2012: 24-27).

The new period of the sustainability started after the Second World War. The Universal Declaration of Human Rights was signed, which allows people to get own property for example. The creation of welfare society began after the declaration of Human Rights was signed. At the same time human and environmental organisations, for example Greenpeace and Amnesty International, established (Harmaala & Jallinoja 2012: 24-27.) Diekers & Bauer (1973) have written: "The past two years have witnessed an almost geometric increase in the number of discussions on the need for an extended accounting system that would enable the business corporation to be more responsive to the rapidly changing demands in its socio-political environment." The need for the sustainability was recognized.

The third period, economic globalisation, began in the 21st century. The main objective is the elimination of capitals, products and humans restrictions between countries. Significant declarations have been The Solemn Declaration on European Union and The Schengen Agreement. Nowadays companies try to create society which economic, social and ecological interests are in balance. (Harmaala & Jallinoja 2012, 24-27; Székely & Knirsch 2005).

2.2 Triple bottom line

Companies can share their sustainability reports to three sections which are economic, social and environment. Economic part includes all companies' economic operations for example salaries and dividends. Economic dimension of sustainable development refers to impacts that the companies may have on economic systems at local, national and global levels. Organisation can have the

economic conditions of its stakeholders also. Financial key figures are measurable with clear and short-term metrics. Companies' performance are usually measured and rewarded primarily based on profits. That can evolve the tensions as business unit and facility managers because they are responsible for excellent performance in all three parts (Epstein et al. 2015.) Epstein et al. (2015) have studied and their research results are that companies evaluates performance based mostly on financial considerations. Their study is based on companies for example Nike and Nissan North America. Similar results have got Cegarra-Navarro et al. (2016) whose have studied the differences between economic and social objectives which are important in small- and medium-sized companies. Cegarra-Navarro et al. (2016) are obviously related to economic objectives and hence the adoption of social and environmental initiatives slower. That way the companies achieving the economic objectives and they are taking responsibility for them involves ensuring their own profitability.

The second part of sustainability, social, is more challenging and pervasive. Companies have different types of social activities for example donating services to community organisations or donating money to charitable causes. Companies can have different type of social innovations which are good for society but innovations enhance the company's capacity to act in achieving its goals for economic development. Social accounting discloses that how social issues can be and are expressed. Social accounting offers a means where by the non-economical might be created, captured, articulated and spoken. Companies can invest to social innovations but they have ulterior motive which are usually economical (Cegarra-Navarro et al. 2016; Deegan 2016.) Cegarra-Navarro et al. (2016) believes in their study that companies' resources shrinks which can cause conflicts between economic and social objectives. If economic and social objectives will be in conflict will managerial support for social innovations

dwindles. Research results have also shown that companies in different countries, for example France, the Netherlands, the United Kingdom and the United States of America, hold different perspectives on the importance of being perceived as socially responsible (Maignan & Ralston 2002). Also have shown that family companies are more proactive in social sustainability than other companies (Dyer & Whetten 2006). Like Van Gils, Dibrell, Neubaum & Craig (2014) have summarized the 35 studies and suggest that family companies are more attentive to social issues than other companies. Also the reasons why every companies do not act in socially responsible are not entirely clear (Ducassy & Montandrou 2015).

The third part, environment, includes everything which can influence to environment. The objective of environment responsibility is to minimize effects to environment, when company operates. The original idea was the monitoring of emissions. Nowadays companies try to find out their products environmental impacts from entire products life cycles (Harmaala & Jallinoja 2012, 16-22; Niskala et al. 2013: 16-17.) Gray (2002 & 2010) show that despite developments in environmental or green accounting there can be see evidence that these initiatives have substantively reduced the negative environmental impacts of corporations. Environmental accounting have many different kind of type to report about the companies' results. There has been debate about the merits of different approaches (Deegan 2016.)

3. SUSTAINABILITY REPORTING

This chapter will figure out the theory of sustainability reporting, the partitions of sustainability reports especially CEO letters and the GRI –guidelines. This chapter will also figure out the theory of accountability and legitimacy and impression management. The empirical part of this study focus on CEO letters which are in sustainability reports and also in financial reports. Below the theory of CEO letters will be the previous studies which lead to the hypotheses of this study. The GRI as an organisation and also as guidelines developer. The study will separate the results to companies which are using the GRI –guidelines and which are not.

3.1 Reporting in general

Companies, particularly multinational companies (Calabrese, Costa & Rosati 2015), interests in environmental and social responsibilities is growing. (Michelon et al. 2015). Some reason why multinational companies are interested in sustainability operations can be that they are notice that they can be responsible for the forms of social and environmental degradation (Mäkelä 2013). Companies' interests is the reason why sustainability reporting is growing in number and widespread interest has helped generate the diffusion of a broad set of sustainability activities by companies of all types (Michelon et al. 2015).

Mäkelä (2013) has analysed employee reporting and problematizes corporate talk about employees. The analys have made from CEO letters and the disclosure on

employees in the annual and sustainability reports of the 25 largest Finnish companies, which have measured by sales. The objective of this study was find out the companies' way to report about their employees. Mäkelä (2013) be aware of the western countries, like Finland, the greater demands of working life for example public and occupational health care services. The results are multilateral. The reports are developed in some areas, but they are still painting only a partial images of people within the companies. Most of the companies disclosed the minimum amount of employee information which was required by law. That is the reason why the news about work life are silent about the negative effects of the restructurings and redundancies (Mäkelä 2013.) Interests of employees and management are in conflict (Mäkelä & Näsi 2010), which can be reason why reports are required by law. The key results are the potential of social accounting in two ways: first way, in making visible the wider corporate impacts and second way, there is potential in alternative accountings when applied in a context that is not corporate-centric. These results can give huge potential of contribution in developing social accounting (Mäkelä 2013.)

Social reporting includes the companies social activities which they are informing their internal and external stakeholders. Social issues reporting can be a dialogue between company and their stakeholder. That dialogue provides to stakeholders opportunity to participate in the activities of company. One way of dialogue can be stakeholder engagement which company is engaged. Stakeholder engagement can make more activity in many organisational areas. Stakeholder engagement is not the key of socially responsible, but it can be the exclusive domain of socially sustainability activities within organisation. (Greenwood 2007).

Stakeholders are more concerned and responsible about environmental and social issues (Brunk & Blümelhuber 2011; Arjaliés & Mundy 2013). Customers are

purchasing decisions can be related to their awareness of company's responsibly activities. Companies need to consider and manage their increasing awareness and concerns aligning business activities accordingly if they want to establish a long-lasting relationship with their stakeholders (Lee & Shin 2010.) Bonsón & Bednárová (2015) have studied the sustainability reporting about the companies which operates in Europe. They are not limited to industry but the study targeted specifically at companies that report in accordance with GRI or Integrated Reporting Council. The main results of the study is that sustainability reporting become more common because the stakeholders are more interests the companies' responsible behaviour.

Carriga & Melé (2004) are classifying the main corporate social responsibility theories in four groups which are instrumental, political theories, integrative and ethical theories. Companies which follow instrumental theories, understand sustainability especially corporate sustainability as means to the end of profits. Instrumental name come that assume that companies think corporate sustainability is instrument, which has only economic aspect of the interactions between business and society is considered. The second group, political theories, accept social duties and rights or that kind of company can participate in social cooperation. These companies have especially relationship with society and its sustainability in the political arena associated with power. Third group has different theories which have the same paradigm that companies have to integrate social demands. Generally their arguments are that companies business depends on society for its continuity and growth. These theories call integrative theories. The last group is ethical theories. Theories understands the relationship between business and society is embedded with ethical values. That's the leading vision of sustainability from an ethical perspective.

Sustainability reporting has been criticized for about reports lack of relevance and credibility (Husillos et al. 2011). Criticism has also touched about failure to impact sustainable development (Gray 2010). Joseph (2012) notes that same criticism which have been typically all aspects of social responsibility in the past. He notes also this concept "sustainability" continues to grow in importance, if the research and developments will serve indicators.

Many listed companies are producing sustainability reports which can be the way to cover a whole range of issues from carbon footprints to stakeholder engagement and human rights (Mäkelä 2013.) That is problem, which have to recognise. Every companies need to recognise their industry specificity when they are formulating and assessing sustainability disclosure. For example the organisation of GRI has created industry-specific guidelines (Cuganesan et al. 2010.) Companies focuses on short term financial gains and the cost cutting supported by accounting and requirements. Social and environmental sustainability initiatives think about as an unnecessary cost rather than as a moral obligation or a benefit (Adams 2015.) Adams & Whelan (2009) consider that integrated reporting have potential to shift the thinking of corporate actors to better align notions of profit maximisation with the wellbeing of society and the environment.

Sustainability has increased transparency of company. Several studies have questioned the accuracy of the information which have presented in sustainability reports. For example Deegan & Rankin (1996) have noticed that company can report only issues which are favourable for the image of company. This enables to impeach to company which has published sustainability report. Owen & O'Dwyer (2008: 405) have noticed that responsible behaviour of company and the contents of the sustainability report are not necessarily congruent. Adams (2015) call into question integrity of the sustainability reports.

An issues which need to change is the assurance (Adams 2015). The one solution for problem can be external assurance which can verify that what company are working to create value as they define it (Adams 2013). Adams (2015) call for measuring impacts of the organisation on the capitals which should be addressed in sustainability reports or online sustainability disclosures.

European Union adjusted the directive which expects that every listed company, which have over 500 employees, revenue is at least 40 million euros or balance is at least 20 million euros, have to report their environmental and social activity. The directive come into force at the latest in 2016, which means that companies have to do their first sustainability –report in 2017 (PE-CONS 47/14.) Implementation of the directive means that sustainability is not optional choice for every companies since the year 2016.

3.2 GRI –guidelines

Non-profit organizations, The Coalition for Environmentally Responsible Economies and the Tellus Institute, have established in 1997 the organisation of GRI in Boston in the United States. The foundation process was also involved in the United Nations Environment Programme. The aim was to create an accountability mechanism to ensure companies which were following the Coalition for Environmentally Responsible Economies (later CERES) principles for responsible environmental conduct. CERES pioneered a framework for environmental reporting in the early 1990s. Next year organisation established a multi-stakeholder Steering Committee to develop the organisation’s guidance. The framework’s scope was broadened to include social, economic and

governance issues (GRI 2016.) The chapter addresses the GRI -guidelines and how guidelines is developed. Other issues are the problematic of the reporting which associated with the different kind of industry. Every industry have their own specific issues and the world evolves and change all the time. The guideline have to “predict” the future if they want to be abreast of the time.

The first GRI –guideline is published in the year 2000. After two years they published the new guideline, G2, which already used the best-known and the largest companies of different industries. GRI organization organized a four-year feedback process which consisted the new guideline, G3. The new guideline take into account other sustainability reporting guidelines for example the United Nations Global Compact and Organisation for Economic Cooperation and Developments have made guidelines to multinational companies. G3.1 - guidelines published in 2011. The new guidelines noticed better human rights and equality issues. The latest large-scale upgrade was completed in 2013, when GRI published the new guideline, G4. (Niskala et al. 2013: 106-110).

The GRI has encouraged companies to measure historical impacts on the environment, social and economies. The main point was not to encourage to company measure to consider the value of company (Adams 2015.) The key objective was to establish reporting guidelines, according to which companies implement their sustainability reporting. The reporting guideline purpose to be a similar model like financial statement reporting. The vision of GRI is to settled and comparable sustainability reports. GRI is reached the generally accepted position that has contributed to the inclusion of stakeholders at the planning process. For example representatives have been involved in from investors, non-governmental and environmental organisations and public authorities (Niskala et al. 2013: 106-111.) GRI has increased about the standardization and professionalization of sustainability reporting (Barkemeyer et al. 2014).

The factors that underpin sustainability are problematic and contestable (Dimitrov 2010). The GRI -guideline includes all three parts which have defined by "triple bottom line" (Hrasky 2012). In addition the GRI -guidelines versatility emphasize attempt to predict about the future. Development of the GRI -guidelines is try to predict about the future. Foreseeable issues are for example grow in number of sustainability reporting and the increasing interest of business executives recognize the critical sustainability development (GRI 2013b.) Guidelines versatility strengthen also the industry specify issues. One issue of increasing importance is the need to recognise industry specificity. The GRI has create industry-specific guidelines for sustainability reporting. The GRI has recognised that some industries face unique sustainability challenges and reporting needs that require specialised guidance (Cuganesan et al. 2010.)

The GRI is generally recognised the dominant framework. Hrasky (2012) opinions is that companies are expected to report according to GRI guidelines if they are seeking moral legitimacy. Guidelines content still need change for example Adams & Frost (2006, 2008) have noted that after seventeen years, when the organisation founded, the integration of sustainability considerations into mainstream decision making, reporting and performance management has arguably been at best slow and patchy.

The GRI strives to correct the incompleteness of the guideline (Adams 2015). Boiral (2013) and Flower (2015) noticed some incompleteness about the material issues which ones G4 seeks to address. Material issues can report more widely than G4 -guideline demands (Adams 2015.) The newest guideline, G4 is to be easier to read than the previous guidelines. The ways and means have been divided the guidelines to two sectors. The main areas of development have been material aspects, boundaries of reporting and involvement of stakeholders (GRI 2013a.)

Joseph (2012) shows that how the GRI sustainability framework serves to illustrate sustainability in the situation which company is not grounded on principles, could lose sight of normative sustainability narrative and become subsumed within the profit golf of the company. The GRI suggests a trade-off between principles and rules which reduced emphasis on normative principles and rather simplistic pursuit of objective measurement largely adapting to traditional accounting goals.

3.3 Theory of accountability, legitimacy and impression of management

The accountability perspective is the normative or idealistic perspective. It will show sustainability reporting as a means by which companies discharge accountability related to environmental and social activities to society (Gray 2006; Gray 2007; Gray, Owen & Maunders 1988.) Gray (2007: 176) has also explain that the heart of accountability is “the notion of holding the organization to account.” The accountability involves the acceptance of two organizational responsibilities. The first one is that a company will manage its resources, also the non-financial resources, and activities. The second organizational responsibilities is that a company will provide account of these activities to stakeholders who have right to this information. Sustainability reports should provide unbiased and transparent information also. From the accountability perspective sustainability reports should provide information of company activities and impacts (Gray 2007.) Some studies have criticized for about the sustainability reporting lack of relevance and credibility (Husillos, Larrinaga & Álvarez 2011; Gray 2010; Joseph 2012). The GRI have recognised the same issue.

The GRI is the dominant framework as discussed previously. The GRI can have impact of the credibility gap (Husillos, Larrinaga & Álvarez 2011; Gray 2010; Joseph 2012) and for example GRI G4 guideline promotes accountability and transparency in sustainability reporting by companies. Their guidelines are consistent with the accountability perspective also (GRI 2015.) This in turn promotes credibility amongst stakeholders (Barkemeyer et al. 2014).

Contrary to this accountability perspective as conveyed by the GRI. The numerous of studies have argued that companies use sustainability reports as a tool to gain legitimacy for their operations (Cho & Patten 2007; Comyns et al. 2013; Deegan & Rankin 1996; Islam & Deegan 2010.) “Legitimacy theory suggests companies with poorer environmental performance would be expected to provide more extensive off-setting or positive environmental disclosures” in their reports (Cho & Patten 2007). Bansal & Clelland (2004: 93) have focused on performance and state that companies “earn environmental legitimacy when their performance with respect to the natural environment conforms to stakeholders expectations.” If the companies are seeking to order to maintain legitimacy companies need to demonstrate congruence between their social and environmental activities and performance with the expectations of society (Barkemeyer et al. 2014.) Companies are used sustainability reports to manage companies’ relationship with society (Neu, Warsame & Pedwell 1998). Companies can use reporting to present their activities and performance in a positive light which can influence the public impression of the company (Hooghiemstra 2000).

Hooghiemstra (2000) describes how impression management strategies adopted in sustainability reporting may be proactive or reactive. Proactive strategies are adopted when company activities are desirable and the positive outcome is enhanced and emphasized within the report. Whereas reactive strategies may be

in the form of the provision of excuses or justifications for negative company actions. In the case of justifications, the company justifies "the activity to reduce the negativeness of the consequences." Caldwell & O'Reilly (1982) define impression management that is a symbolic action, aimed at influencing the perception of the company by selectively choosing how information is presented to society.

Merkel-Davies & Brennan (2007) suggest that concealment and attribution can be the two strategies which are adopted by companies using impression management strategies. The first strategy, concealment can involve obfuscating negative results. In the rhetoric that can appear itself as decreased readability which may confusing the reader and make more difficult to determine the exact message communicated. The second obfuscation strategy identified is the use of persuasive language designed to convince the report reader of arguments being made. Rhetoric can be more persuasive for example where the tone used is one of certainty. "Higher levels of certainty used can in turn increase the credibility of the narrative making it more persuasive to the report reader. Concealment strategies may also involve emphasizing positive outcomes and therefore the theme of the rhetoric may manifest itself as being overly positive and optimistic with many positive key words used" (Barkemeyer et al. 2014.)

The attribution in the case of impression management strategies the cases negative performance is attributed to external factors while positive performance to internal factors (Merkel-Davies & Brennan 2007). "Given the above, it is expected that the rhetoric used in sustainability reporting where impression management strategies are used will differ from the rhetoric used where reporting is an accurate reflection of performance" (Barkemeyer et al. 2014).

3.4 CEO letters in reports

CEO letters can be a formal like in speeches, press releases, sustainability reports and annual reports or it can be informal like in meetings. CEO letter is a set of complex communicative acts with symbolic, emotional, cultural and political overtones (Amernic, Craig & Tourish 2010.) The used language in the CEO letters is a strategic form of sense-making (Weick 1995). Especially, annual reports or only financial reports are important instances of the use of language in the discourse of senior corporate leaders. CEO letters are offering valuable insight to the motives, attitudes and mental models of management (Amernic et al. 2010.) The CEO letters is one of the most read parts of the company annual reports (Clatworthy & Jones, 2003; Hyland, 1998) so the CEO letters in annual reports has been viewed as an opportunity for companies to positively manage public impressions and the CEO letters is not formally audited (Clatworthy & Jones 2006). Smith & Taffler (1995, 2000) have found that the rhetoric used in CEO letters can provide an accurate indication of company financial performance. If sustainability reports are accurate accounts of corporate sustainability performance, then a similar link between sustainability performance and the rhetoric used in CEO letters in sustainability reports should exist (Barkemeyer et al. 2014).

CEO letters includes commonly discussion of the financial and operational performance of company, commentary on financial year of company. Usually in letters have shown the measures which company has taken to ensure profitability (Mäkelä 2013; Barkemeyer et al. 2014.) Mäkelä (2013) have found that CEOs

prioritize the interests of the shareholders. The CEO letters can give overall picture of the company. Abrahamson & Amir (1996) have shown that in the CEO letters have been argued to be potentially more forward-looking than the financial performance. They are outlining key future opportunities and challenges the company faces (Barkemeyer et al. 2014). Craig & Brennan (2012) suggest that CEO letter contains accountability purposes and to creating corporate reputation, corporate image and corporate credibility.

CEO letters have seen to reflect organizational culture and atmosphere in questions which are of value and relevant to the company. They are also an essential form of corporate communication (Amernic, Craig & Tourish 2007; Amernic et al. 2010.) Mäkelä (2013) suggests that importance of analysing the CEO letters to see how the role of people is communicates as part of the corporate values. In addition the impact of CEO letters may have increased since secondary rhetoric has the potential to become a self-fulfilling prediction (Amernic et al. 2010).

Difference in CEO letters can be found by the rhetoric which they have used. Different rhetoric can be found from the sector-level (Abrahamson & Hambrick 1997) and country-level (Conaway & Wardrope 2010). Barkemeyer et al. (2014) suggest that most of studies in this field have more generally focused on the link between corporate financial performance and the rhetoric which is used by senior management. That have identified a number of ways in which financial performance influences the content of financial report in CEO letters (McConnell. Haslem & Gibson 1986; Tennyson, Ingram & Dugan 1990). Barkemeyer et al. (2014) suggest that amount of literature can confirm that financial reports and annual reports generally constitute the company – shareholder interface of a largely functioning performance evaluation mechanism. That mechanism

determines corporate financial performance by the rhetoric used in CEO letters in financial report of company.

Sustainability reports can constructs the company and stakeholder relationship which interface of a largely functioning, sustainability, performance evaluation mechanism. Barkemeyer et al. (2014) notices that mechanism should identify similar patterns in sustainability reports with corporate sustainability performance determining the rhetoric in CEO letters in sustainability reports.

Financial reporting have a long-standing tradition and countries have established standardization. Companies know that how and what different stakeholders expect to report. Financial reporting is supposed to provide representation of financial performance of company (Barkemeyer et al. 2014.) The link between financial report and financial performance have shown by the used language. The rhetoric which have used in financial reports can provide relevant incremental information about the decision making and that way can reflective of financial performance (Merkl-Davies & Brennan 2007.) Financial reports and sustainability reports are in different situation. Sustainability reporting is a new issue in companies operations unlike financial reporting. Barkemeyer et al. (2014) suggest that balanced, comprehensive and realistic representations of sustainability performance of company has increased overtime. For example the GRI has an important role in this context. Organizations have to gain and keep to maintain legitimacy within their stakeholders.

3.4.1 Optimism of the rhetoric

Companies with a good performance have more optimistic rhetoric of the CEO letters than companies with a poor performance (McConnell et al. 1986;

Tennyson et al. 1990). CEO letters, which talk gains or losses, can predict good performance and companies, which are not talking gains or losses, will have a low performance. If CEO letter includes mention about imminent losses that will be associated with stock price declines. The same situation will happen if the mention of the confidence are mentioned in CEO letters (McConnell et al. 1986.) Tennyson et al. (1990) show that healthy companies focus for example on expansion and growth and companies which are in trouble focus on the external environmental. Barkemeyer et al. (2014) deduce that between the optimism of the rhetoric of CEO letters and the financial success of companies will have a positive relationship.

Previous empirical research have found that companies with poor performance can report largely positive information which could to present themselves in the best possible light (Jameson 2000). Cho et al. (2010) propose that companies use optimism to managing stakeholder impressions. Optimism will conceal true performance of company. That is reason why companies with poor environmental performance can be also optimistic in the rhetoric which they have used in sustainability reports. The view is the same with the taxonomy proposed by Merkl-Davies & Brennan (2007).

Earlier studies may lead to

H1: "The overall degree of optimism of the rhetoric used in CEO letters of sustainability reports goes down over time"(Barkemeyer et al. 2014).

3.4.2 Certainty of the rhetoric

Bradley (1978) have shown that the rhetoric of CEO letters is the effect of self-serving attributions. Companies attribute successes to themselves and failures to

external causes and forces in CEO letters. Companies which are in trouble can blame negative outcomes on the external environment (Bettman & Weitz 1983.) Barkemeyer et al. (2014) expect also that the rhetoric of CEO letters of troubled companies is more characterized by risk and in the case of successful companies by certainty.

Kahneman & Tversky (1979) have created prospect theory can explain that companies are more risk-friendly in their strategic actions and also in their rhetoric if they have some reasons why they are exposed to severe negative performance. Prospect theory combined economics and psychology. Barkemeyer et al. (2014) have figured that a situation where is shown a gain will be preferred to an identical situation shown as a loss. So individuals will accept a disutility if it will help them to avoid a loss. That situation can lead to individuals more risk-averse if they feel they have more to lose than to gain if individuals are in favourable conditions. The opposite situation will be if individuals are risk-seeking and executives will face opportunities which can expected to be risk-averse. Requirement of that situation is unfavourable conditions (Fiegenbaum & Thomas 1988; Wiseman & Gomez-Mejia 1998.) Because of that paradigm Chattopadhyay, Glick & Huber (2001) believes that prospect theory leads us to wait for organizations facing opportunities to respond externally threats by internally directed actions. Child (1984) have shown for example about that situation. The situation can form when environment is good-natured but organizations may have reason to intrude into it. Bowman (1982, 1984) sees that situation may be lead to companies expect that the readers of the reports will be more accepting vagueness and riskiness when the performance which they face is negative. The most interesting issues is that has been observed in the CEO letters of the companies which are usually in troubled. Barkemeyer et al. (2014)

see that riskiness is more acceptable in companies which have a poor performance and it reflects in their rhetoric which they use in CEO letters.

In the light of previous studies can supposed that sustainability reports have improved companies representativeness of actual performance. However, we can expect the rhetoric of sustainability reports to represent a level of certainty and firmness in the case of good performance and vice versa riskiness and uncertainty in the case of poor performance (Barkemeyer et al. 2014.) Fekrat, Inclan and Petroni (1996) shows that sustainability reports serve mainly purposes of legitimacy management. Today, we can expect them to be more balance and representativeness of the real sustainability performance. Companies should be more open about operations which are involving risks also. Accordingly certainty scores should go down over time in CEO letters of the sustainability reports (Barkemeyer et al. 2014.)

Earlier studies may lead to

H2: "The degree of certainty of the rhetoric of CEO letters in sustainability reports on average goes down over time, reflecting a more representative character of corporate sustainability performance of sustainability reporting" (Barkemeyer et al. 2014).

3.4.3 Readability

The relationship between the readability of CEO letters or annual reports and the financial success of companies is quite well researched issue (Courtis 1995, 1998; Clatworthy & Jones 2001; Li 2008). "The placing of managers in complete control of the accounting communication process which monitors their performance breeds a situation where in it is perfectly natural to expect that some managers

would obfuscate their failures and underscore their successes” (Adelberg 1979). That can call also obfuscation hypothesis where “obfuscation is used to describe a narrative writing technique that obscures the intended message, or confuses, distracts or perplexes readers, leaving them be wildered or muddled” (Courtis 2004). If the obfuscation hypothesis is realized it may expect to observe that the CEO letters of less successful companies are more complex to read than the CEO letters of more successful companies. Evidence for the link between the readability of financial disclosure and financial performance is mixed (Jones & Shoemaker 1994.) Same like thought is from Bloomfield (2002) who sees that if markets react less completely to information they will more slowly extracted from public disclosures which means that managers have more incentive to obfuscate information when company has a poor performance. Consistent with this hypothesis can figure that management will to be more forthcoming in the disclosure of information when their respective companies have a good performance (Lang & Lundholm 1993; Schrand & Walther 2000).

That kind of theory can applied to sustainability reports the obfuscation hypothesis would imply that CEO letters of companies with a poor sustainability performance are more difficult to read than CEO letters of companies with a good sustainability performance. Additional, the one of the strategic of company can be to conceal poor performance in narrative documents is manipulation of readability and companies which use sustainability reporting to manage public impressions are also likely to obfuscate not so good news. That kind of impressions can get from management perspective (Merkl-Davies & Brennan 2007). Expecting that sustainability reports have become more balanced and representative over time, the spread for companies to mispresent their sustainability performance should have decreased. That is how we can lead conclusions the hypothesis the overall degree of readability of CEO letters of

sustainability reports goes down over time, reflecting more representative character of corporate sustainability performance of sustainability reporting (Barkemeyer et al. 2014).

Earlier studies may lead to

H3: "The overall degree of readability of CEO letters of sustainability reports goes down over time, reflecting more representative character of corporate sustainability performance of sustainability reporting" (Barkemeyer et al. 2014).

4. DATA & RESEARCH METHOD

This chapter will figure out the data and research method how the data will be used. The data consists of CEO letters which are published in annual and sustainability reports. The CEO letters are collected from the websites of companies. Data will figure out also the main points of CEOs which have written the CEO letters. Methods will figure out the main software and their key figures that are being used in this study. This paragraph will also present the limitations of this study.

4.1 Data

This study analyses CEO letters which are published in sustainability and annual reports. The study takes a longitudinal perspective about sustainability reporting so the CEO letters are from the years 2006–2015. All of the companies are from Finland and working in the field of energy, financial services or forest and paper products sectors. The data includes both the public and limited liability companies. A criteria about the annual reports have been that they have talked about sustainability if they don't have sustainability reports. All of the annual reports have taken from the companies websites. Sustainability reports have shared a reports which are reporting in accordance with GRI –guidelines and those who are not (table 1.) The companies can download their sustainability reports to Sustainability Disclosure Database –website. Sustainability reports have taken from the companies websites and Sustainability Disclosure Database –website.

Table 1. The list of the data that is being used in this study.

Company name	Sector	*GRI	Type of report		Total
			AR	*CSR	
Ahlstrom Corporation	Forest & Paper Products	GRI	10	4	14
Aktia Oyj	Financial Services	GRI	5	3	8
Caruna	Energy	GRI	1	0	1
Caverion	Energy	NON-GRI	3	0	3
Elo	Financial Services	NON-GRI	2	0	2
Fiblon Oy	Forest & Paper Products	NON-GRI	0	3	3
Fingrid Oyj	Energy	GRI	5	0	5
Finnvera	Financial Services	GRI	5	0	5
Fortum	Energy	GRI	7	1	8
Helen Group	Energy	NON-GRI	3	0	3
Ilmarinen	Financial Services	GRI	7	3	10
Kemijoki Group	Energy	GRI	3	0	3
Koskisen	Forest & Paper Products	NON-GRI	1	0	1
Lähitapiola (Previous Tapiola)	Financial Services	NON-GRI	6	2	8
Martela	Forest & Paper Products	GRI	7	6	13
Metsä Group	Forest & Paper Products	GRI	9	5	14
Munksjö Group	Forest & Paper Products	NON-GRI	6	0	6
Neste (Previous Neste Oil)	Energy Utilities	GRI	10	0	10
Nordic Investment Bank	Financial Services	GRI	9	0	9
OP-Pohjola	Financial Services	GRI	7	4	11
Pohjolan Voima	Energy	NON-GRI	10	0	10
Sampo Group	Financial Services	NON-GRI	4	0	4
Solidium Oy	Financial Services	GRI	6	0	6
Stora Enso	Forest & Paper Products	GRI	6	5	11
Suomen Teollisuussijoitus	Financial Services	GRI	4	2	6
Teollisuuden Voima Oyj	Energy	GRI	8	8	16
UPM-kymmene	Forest & Paper Products	GRI	10	1	11
Vapo	Energy	GRI	2	2	4
Varma	Financial Services	NON-GRI	1	0	1
Wärtsilä Corporation	Energy	GRI	10	0	10
TOTAL			167	49	216

*GRI: Company is reporting in accordance with the GRI –guideline.

*NON-GRI: Company isn't reporting in accordance with the GRI –guideline.

**AR: Company's financial information report which can include also non-financial information.

***CSR: Company's sustainability reports which include only non-financial information.

From the table 1 we can see the amounts of the reports (bottom row of the table 1.) Companies are in very different situations. As we can see that UPM – kymmene and Wärtsilä Corporation have done sustainability reports all the time

but the reports belong the same report with annual reports in contrast to Caruna, Koskisen and Varma have done the first sustainability reports in the year 2015. The reports have different structure. For example some sustainability reports did not include CEO letter at all and some reports included only video-message from the CEO but no written version. The video-messages from the CEOs are not include the data of this study. There were also the sustainability reports which include only message from the person who is responsible about sustainability issues of company. The messages were rare and they were included in to the data of this study. We have to also notice that they are Finnish companies so almost all of them publish reports in Finnish but not always in English. The CEOs native language is Finnish, Swedish or Danish which can influence to the results.

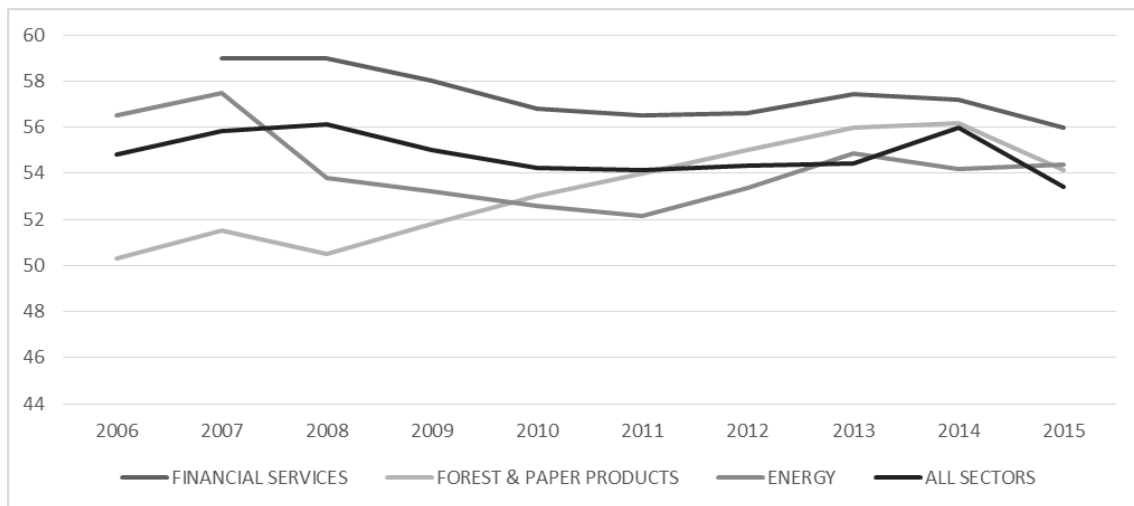


Figure 1. The average age of CEOs by business sectors.

Figures 1 and 2 identify CEOs, whose letters are the main source of material for this study. As we can see from the figure 1 it seems to be that the CEOs are usually 50-60 years old in Finland, but the main point is that CEOs, which are working on financial service sector, seems to be older than the CEOs in other business sectors. The other main point from the figure 1 is that CEOs of this study in forest and paper products are getting older all the time. One reason for that finding can be that the CEOs of this study which are working in forest and paper products

Table 2. The data of this study annually.

Company	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
OP-Pohjola	2	1	2	2	2	1	1	0	0	0
Nordic Investment Bank	1	1	1	1	1	1	1	1	1	0
Ilmarinen	2	1	1	1	1	1	1	0	0	0
Solidium Oy	1	1	1	1	1	1	0	0	0	0
Finnvera	1	1	1	1	1	0	0	0	0	0
Suomen Teollisuussijoitus	2	1	1	1	1	0	0	0	0	0
Aktia Oyj	1	2	2	2	1	0	0	0	0	0
Elo	1	1	0	0	0	0	0	0	0	0
Lähitapiola	1	1	1	1	1	1	1	1	0	0
Sampo Group	1	1	1	1	0	0	0	0	0	0
Varma	1	0	0	0	0	0	0	0	0	0
Ahlstrom Corporation	1	1	2	2	2	2	1	1	1	1
UPM-kymmene	1	1	1	1	1	1	1	1	1	2
Martela	2	2	2	2	2	2	1	0	0	0
Stora Enso	1	1	1	1	1	1	2	1	1	1
Metsä Group	2	2	2	2	2	1	1	1	1	0
Munksjö Group	1	1	1	1	1	1	0	0	0	0
Fiblon Oy	0	1	0	1	0	1	0	0	0	0
Koskisen	1	0	0	0	0	0	0	0	0	0
Fingrid Oyj	1	1	1	1	1	0	0	0	0	0
Fortum	1	1	1	1	1	1	1	1	0	0
Wärtsilä Corporation	1	1	1	1	1	1	1	1	1	1
Vapo	2	2	0	1	0	0	0	0	0	0
Teollisuuden Voima Oyj	2	2	2	2	1	1	1	2	2	1
Neste (Previous Neste Oil)	1	1	1	1	1	1	1	1	1	1
Kemijoki Group	1	1	0	1	0	0	0	0	0	0
Caruna	1	0	0	0	0	0	0	0	0	0
Helen Group	1	1	1	0	0	0	0	0	0	0
Pohjolan Voima	1	1	1	1	1	1	1	1	1	1
Caverion	1	1	1	0	0	0	0	0	0	0

sector have been the same position many years. Figure 2 figures out that how many times the CEOs have changed during the reference period. It shows that five companies in forest and paper products sector have had the same CEO during the reference period. We have to notice that the number of CEOs are only from the timeline when we are analysing their reports also. The specific information of the timeline can find from the table 2. There are the list of companies and amount of the reports annually which include in this study. Figure 2 shows that the number of the CEOs during the reference period is almost the same for all companies. Exceptions had to be taken into account to analysing the results of this study. The CEOs are mostly male, the only one female is CEO at the ELO -company from the year 2015. The CEOs native language is Finnish, Swedish or Danish, but they probably have a professional English skills because of their work.

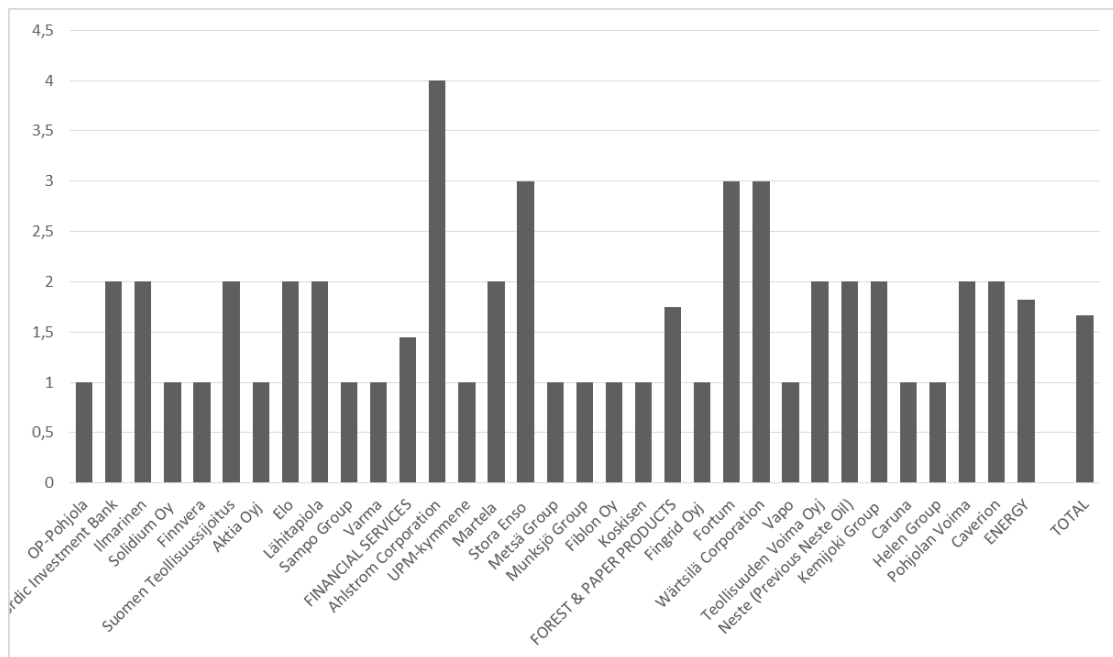


Figure 2. The number of CEOs during the reference period.

4.2 Method

As earlier presented that used language in the CEO letters are usually a strategic form of sense-making (Weick 1995). CEO letters are sets of complex communicative act with for example emotional and symbolic overtones which is the reason why they are also offering valuable insight to the motives and mental models of management (Amernic et al. 2010). Sentiment analysis focuses on the use of natural language processing. The specific application, like Diction, can classify texts polarity, either positive or negative. Previous the term sentiment analysis has defined to mean only that task. Nowadays the definition of sentiment analysis has expanded to mean the computational treatment of opinion, sentiment and subjectivity in text (Pang & Lee 2008.)

This study tests hypotheses by conducting a sentiment analysis 216 CEO letters of sustainability and annual reports during the years 2006-2015. The reports are from 30 companies in 3 business sectors which are financial services, forest and paper products and energy. The data has been handled manually because the reports have been in PDF format or online-text in the company's website. The CEO letters are copied from the reports and stored as a simple text files for cleaning processing. Cleaning means the removal of some special characters as well as spurious characters introduced middle of words by the copy-paste operation. This study did not fix orthographic mistakes because we cannot be sure that we can be unbiased about the fixing orthographic mistakes.

This study focuses on two sentiment metrics and one readability scores which have calculated for the linguistic analysis of the CEO letters. The sentiment metrics are certainty which calculates risk mention (relating to hypothesis 1) and optimism which calculates positivity and negativity (relating to hypothesis 2.) Readability scores were calculated with Flesch Reading Ease –method (Kincaid,

Fishburne, Rogers & Chissom 1975) (relating to hypothesis 3.) The sentiment analysis has been used to score each document along the two sentiment dimensions, certainty and optimism. Calculating is a rule-based approach which means term frequency calculation based on category term lists. That is simple and widely used in all kinds of contexts. "A document is classified on the basis of the frequency of words it contains that have been previously labelled by specialized dictionaries or hand-made lists. Normalization was performed, to account for variable document length. The basic underlying assumption is that the sentiment of a piece of text – such as its optimism – can be revealed by the frequency of words of a certain type used by the writer." These types have been provided by existing psycho-social dictionaries, like Diction, and the associated tools have provided the raw scores. The sentiment metrics, certainty and optimism, have got by Diction (Barkemeyer et al. 2014.)

Diction (Hart & Carroll 2013) is the text analysis program for determining the tone of a verbal message for example CEO letters. Software searches for 5 main semantic features which have called master variables which are activity, optimism, certainty, realism and commonality. Software can process a variety of English language texts and it is using a 10 000 word corpus. It can also use the user-created custom dictionaries. This study uses only the results about optimism and certainty. Certainty score is provided as a ready-to-use scores by Diction. Hart & Carroll (2013) has defined certainty as "language indicating resoluteness, inflexibility, and completeness and a tendency to speak ex cathedra. The Diction calculates the certainty scores as a combination of other measures which are [tenacity + levelling + collectives + insistence] – [numerical terms + ambivalence + self-reference + variety]. The definition of terms of formula you can be seen in appendix 1. Same like certainty –scores Diction has also a ready-to-use scores about optimism. The Diction calculates the optimism as a

combination of other measures which are [praise + satisfaction + inspiration] – [blame + hardship + denial]. The definition of terms of formula you can be seen in appendix 2.

The readability scores have got by Microsoft Word 2016 which implements the original Flesch Reading Ease algorithm that is based on the assumption that a text with longer sentences and longer words are more difficult to read. It provides scores between 0-100 where the higher scores means that the text is easier to read than the text with the lower scores. The sentiment metrics and readability scores have been converted into Z-scores by SPSS so the results are comparable across different sectors and dimensions. For each sector and dimensions is being calculated the difference between the mean score and each individual score in the group, divided by the standard deviation (Barkemeyer et al. 2014.) To demonstrate the results is created descriptive analysis by SPSS and Microsoft Excel 2016 and total samples figures by Microsoft Excel 2016 and additional analysis include t-test by SPSS and Microsoft Excel 2016.

The method is the same as the previous study by Barkemeyer et al. (2014). Then the results are comparable with each other. This study has also added variables which Barkemeyer et al. (2014) have noticed that can affect to the findings. This kind of variables are for example ages of CEOs and reporting guideline.

5. THE RESULTS & ANALYSIS

In the following, the results of the sentiment analysis of the CEO letters are presented. Table 3 shows that descriptive analysis of the results of this study. We can also see that companies are more optimistic- and less certainty-oriented in the annual reports than their sustainability reports equivalents. Their annual reports are also more readable than their sustainability reports. The differences between standard deviations are almost same with every metrics. The standard deviation of all metrics is normal. From the table 2 we can see that the sustainability reports are more common in the forest and paper products than other sectors.

Table 3. The results of descriptive analysis.

	Annual Reports			Sustainability Reports			Δ FR - SR
	Mean	N	Std. deviation	Mean	N	Std. deviation	
Total sample							
Optimism	0,0351	167	0,9947	-0,0889	48	1,0089	0,1240
Certainty	-0,0023	167	1,0111	0,1307	48	0,9151	-0,1330
Readability	0,0068	167	0,9956	-0,0194	48	0,9802	0,0262
Energy							
Optimism	0,0359	63	0,9482	-0,0615	11	1,0110	0,0974
Certainty	-0,0145	63	1,0270	0,1491	11	0,9274	-0,1636
Readability	-0,0085	63	1,0246	-0,0276	11	0,9864	0,0192
Forest & Paper Products							
Optimism	0,0249	48	0,9923	-0,0889	25	1,0089	0,1138
Certainty	0,0101	48	0,9911	0,1307	25	0,9151	-0,1206
Readability	0,0191	48	0,9947	-0,0194	25	0,9802	0,0385
Financial Services							
Optimism	0,0730	56	0,9856	-0,0577	12	1,0023	0,1308
Certainty	0,0205	56	1,0066	0,1369	12	0,9172	-0,1165
Readability	0,0184	56	1,0141	-0,0327	12	0,9935	0,0511

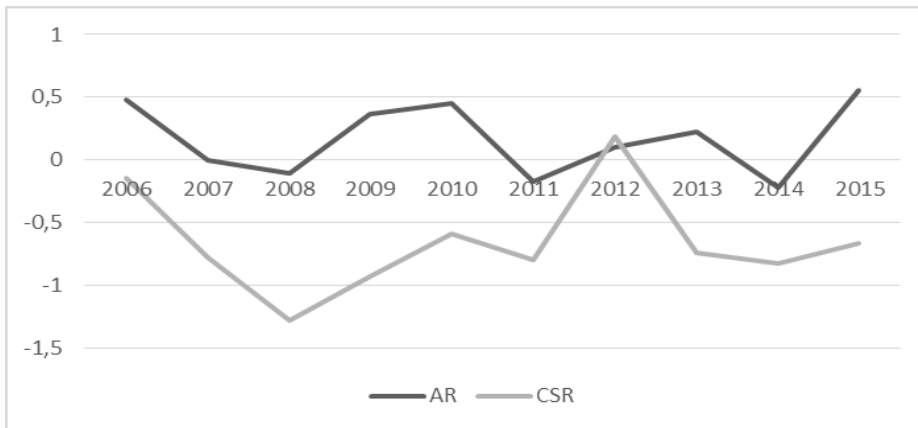
Chapter will figure out the results of the hypotheses of this study. Results will show longitudinal changes in the overall samples in the overall samples of annual and sustainability reports for all three metrics: optimism, certainty and readability. Figures 3, 6 and 8 show longitudinal changes in the overall samples of the annual and the sustainability reports for all three metrics. The study will focus on also individual companies and sectors which have some specific perspectives for example same CEO all the period.

5.1 The results of optimism

The first metric, optimism, was measured by Diction. The Diction calculates the optimism as a combination of other measures which is [praise + satisfaction + inspiration] – [blame + hardship + denial] (Hart & Carroll 2013). The definitions of the terms of formula of optimism can you find from appendix 1. The scores of optimism from the years 2006-2015 is shown in the figure 3. Later we can see, from the figure 5, also specific analysis of how different kind of scores can get companies where the first one have had same CEO during the period and the second one have had four different CEOs during the period.

As we can see from the figure 3 the optimism scores are significantly higher in annual reports than sustainability reports. This study hypothesized that optimism scores go down over time but the results show that the scores are going up and down all the time. The results show that scores were going down about two years (from the year 2006 to the year 2008) and then the scores are going up two years (from the year 2008 to the year 2010.) The years from the 2010 to the year 2015 is more confusing. It seems like the scores are changing repeatedly

every year. Sustainability report CEO letters receive clearly lower optimism scores than their annual report counterparts throughout the period under review with the exception the year 2012 when sustainability report CEO letters have been 0,00074 higher than annual report counterparts.



AR: Company's financial information report which can include also non-financial information.

CSR: Company's sustainability reports which include only non-financial information.

Figure 3. The scores of optimism from the years 2006–2015 (total sample).

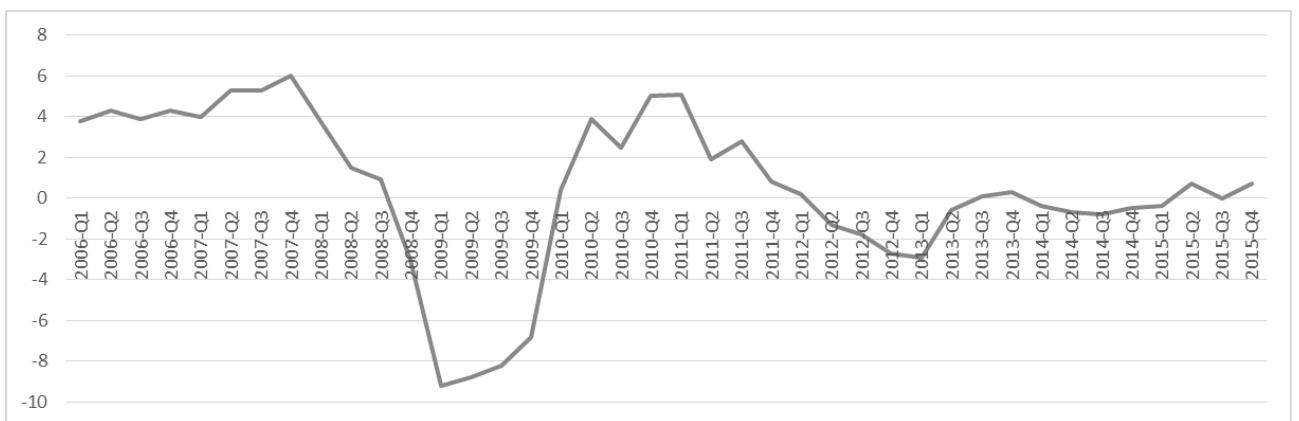


Figure 4. Gross domestic product of Finland by quarter 2006Q1–2015Q4. (Source Statistics Finland 2017).

The previous studies address that companies with a good performance have more optimistic rhetoric of the CEO letters than companies with a poor performance (McConnell et al. 1986, Tennyson et al. 1990). The figure 3 shows the results of optimism. As we can see that in the years 2007 and 2008 the results are going down. Financial crisis started early 2000s and the official definition started the financial crisis in the year 2007 (Reinhart & Rogoff 2008). Like McConnell et al. (1986) have noticed that companies with a poor performance will have also the lower optimistic rhetoric of the CEO letters than the companies with a good performance. The finding supports the findings of McConnell et al. (1986).

The findings present that optimistic scores seems to be higher in annual reports than sustainability reports. This finding is opposite with the findings of Barkemeyer et al. (2014). The scores of optimistic are also lower in the year 2007 like this study scores of optimistic, but the year 2008 has been already better. The one reason for that finding can be that the companies in the research of Barkemeyer et al. (2014) are operating in the US or Canada. The companies of this study are operating mostly in Europe. So the effects of financial crisis can be seen later because the start of financial crisis was in the US (Reinhart & Rogoff 2008). We can also see from the figure 3 that after the year 2012 the scores of optimism are going lower. From figure 5 we can see the statistic of gross domestic product of Finland. The gross domestic product of Finland has been very low from the year 2007 to the year 2009 and from the year 2012 to the year 2014. As we can see from the figure 3 the scores of optimism have been lower in the years 2007, 2008, 2013 and 2014 when at the same time the gross domestic product of Finland has been also lower. Figures 3 and 4 seems to be same like situation that the years 2007 and 2008 have the lowest scores and the years 2013 and 2014 have only little bit lower scores than previous years. The findings and the statistic of gross domestic product of Finland (Statistic Finland 2017) together support the

findings of Tennyson et al. (1990) which have shown that healthy companies focus for example on expansion and growth. Figure 4 shows the gross domestic product of Finland by quarter. The results of gross domestic product of Finland is more accurate than the scores of optimism in the figure 3. We have to also note that the scores of optimism in figure 3 are changed to z-scores.

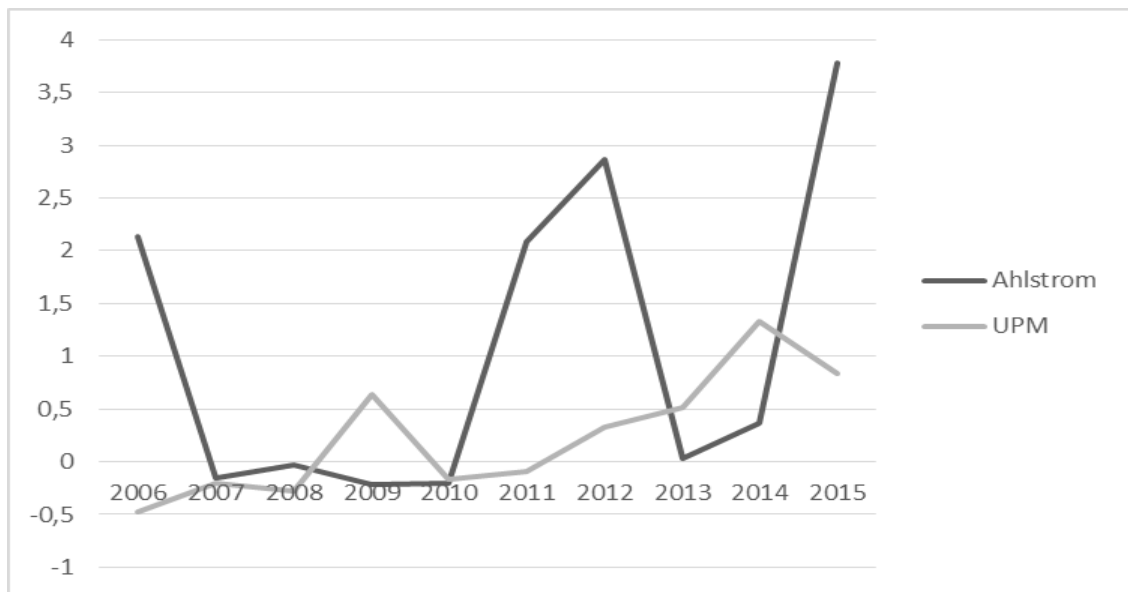


Figure 5. Ahlstrom Corporation and UPM firms' optimism scores.

Figure 5 shows two companies which are working on the same sector, forest and paper products. They have very different perspectives of reporting because Ahlstrom Corporation have tried to separate sustainability and annual reports from the year 2010 to the year 2013. They have also had many CEOs. The new CEO has become to the company in the years 2007, 2008 and 2014. The years are first ones when they have signed the CEO letter. UPM has done all the time the combined report which includes financial information and non-financial information. They have had all the time same CEO. The companies have same sector and they have both also reported in accordance with the GRI –guideline.

As the figure 5 shows that Ahlstrom years 2010-2013 have been higher optimism scores than before. Their scores seems to be varied. The scores of UPM have been more balance but they are going up all the time so the results of UPM are opposite of the hypothesis.

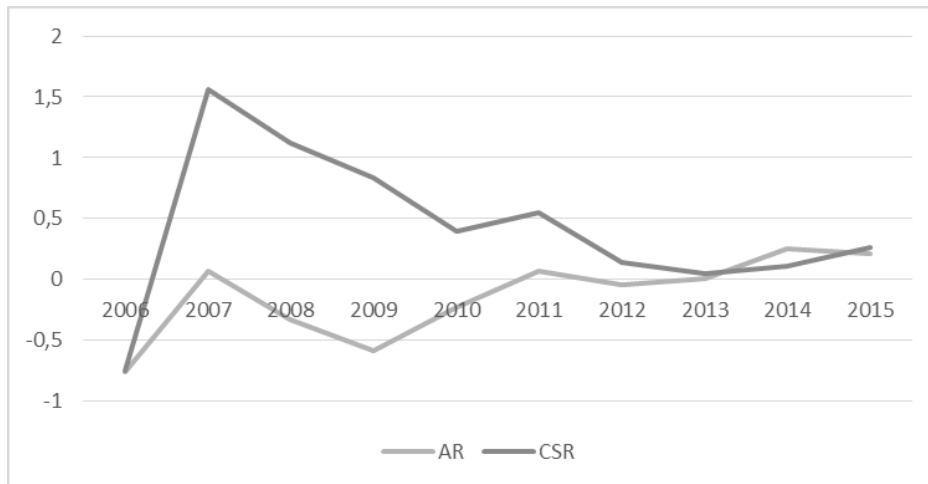
The findings didn't give support for the hypothesis H1 "the overall degree of optimism of the rhetoric used in CEO letters of sustainability reports goes down over time" (Barkemeyer et al. 2014), but the findings support the research of McConnell et al (1986) and the research of Tennyson et al. (1990). The results of optimism in the research of Barkemeyer et al. (2014) are going up over time. The results of optimism of this study are going up and down. The years when the scores are down seems to be almost the same that the gross domestic product of Finland have also been down.

5.2 The results of certainty

The Diction calculates the certainty scores as a combination of other measures which are [tenacity + levelling + collectives + insistence] – [numerical terms + ambivalence + self-reference + variety] (Hart & Carroll 2013.) The definitions of the terms of formula of certainty can you find from the appendix 2. The scores of certainty from the years 2006-2015 is shown in figure 6.

Figure 5 shows the second metric, certainty. Certainty –scores are separate from the year 2007 when scores were last year (2006) on the same level. Sustainability reports have goes down over time from the year 2007 to the year 2013. The hypothesis 2 were that the degree of certainty of the rhetoric of CEO letters goes

down over time. It seems to be the same as results by the years 2007-2013. Optimism scores of the annual reports get higher and higher all the time.



AR: Company's financial information report which can include also non-financial information.

CSR: Company's sustainability reports which include only non-financial information.

Figure 6. The scores of certainty from the years 2006–2015 (total sample).

The second metric, certainty involved to the second hypothesis “The degree of certainty of the rhetoric of CEO letters in sustainability reports on average goes down over time, reflecting a more representative character of corporate sustainability performance of sustainability reporting.” Figure 6 shows that the scores of certainty have been the same in the year 2006 and then the scores of certainty of sustainability reports have been higher than the same scores of annual reports. The findings of Barkemeyer et al. (2014) are different. Their companies got higher scores of certainty in sustainability reports than in annual reports. Their scores are aligned relative to each other. The scores of this study are getting closer and in the year 2013 they have been almost the same.

Bradley (1978) has shown that the rhetoric of CEO letters is the effect of self-serving attributions. Companies attribute successes to themselves and failures to

external causes and forces in CEO letters. Companies which are in trouble can blame negative outcomes on the external environment (Bettman & Weitz 1983). As we can see from the figure 7 there is two companies which have different perspectives because the CEO of UPM has been the same unlike the CEO of Ahlstrom Corporation. There we can see that the certainty scores of Ahlstrom are significantly lower than the certainty scores of UPM.

The findings are going down over time an exception in the years 2006-2007 and 2015. The reason for the scores of the years 2006 and 2007 can be the data because this study has only one report from the years 2006 and 2007. Also in the 2010s some companies started to publish a separate sustainability report which can also affect the findings. This research should do with companies which have done a separate sustainability report during the period which are taken into research.

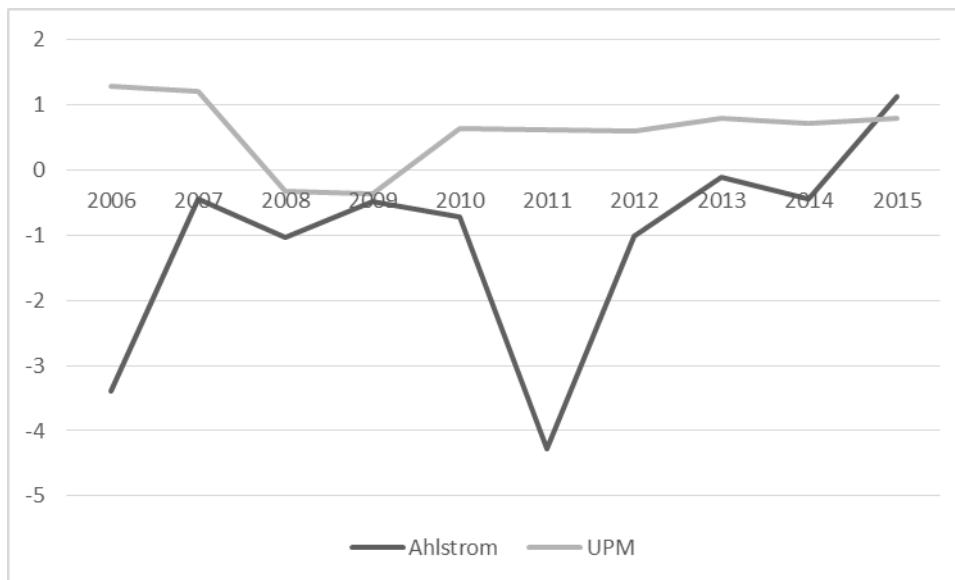


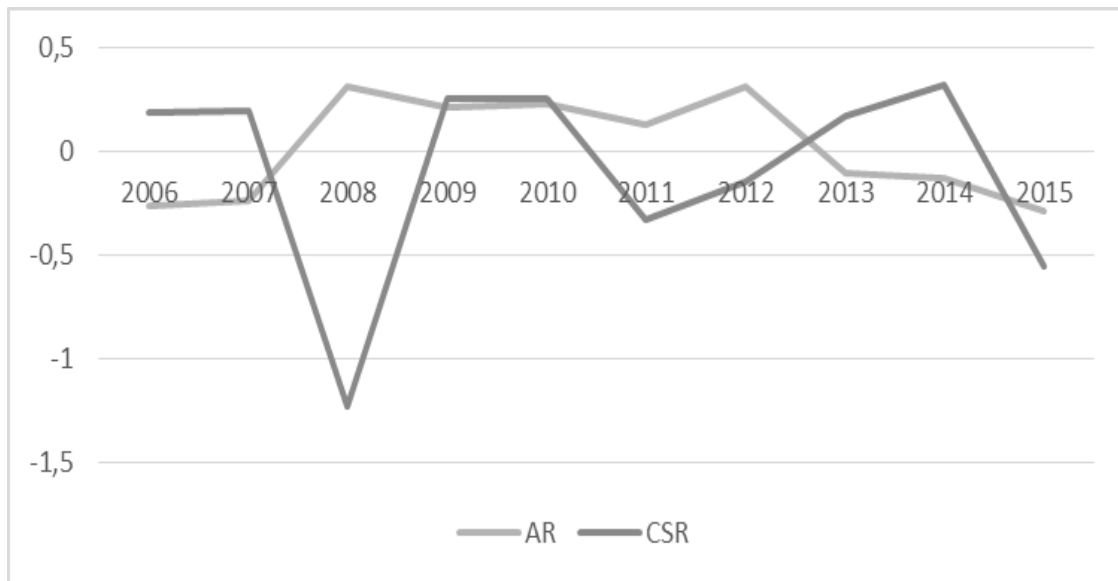
Figure 7. Ahlstrom Corporation and UPM firms' certainty scores.

Figure 7 shows the differences amongst the two companies' results with different perspectives. There we can see the Ahlstrom Corporation scores have changed repeatedly from the year 2010 to the year 2013 when they separated the financial information and non-financial information. UPM has the same combined report and the same CEO all the time and their scores have stayed almost the same.

The findings didn't give support for the hypothesis 2 "The degree of certainty of the rhetoric of CEO letters in sustainability reports on average goes down over time, reflecting a more representative character of corporate sustainability performance of sustainability reporting" (Barkemeyer et al. 2014).

5.3 The results of readability

The third metric, readability was measured by the Microsoft Word 2016 which have implement Flesch Reading Ease –scores. The scores present about the readability of the reports. From the figure 8 we can see that the scores have been almost the same all the time. Only the year 2008 seems to be different than the other years. The native language of the CEOs are not English so the readability is interesting perspective. Metric, readability, which involved H3 "The overall degree of readability of CEO letters of sustainability reports goes down over time, reflecting more representative character of corporate sustainability performance of sustainability reporting" (Barkemeyer et al. 2014). As we have earlier found out that the relationship between the readability of the CEO letters and annual reports and the financial success of companies is quite well researched issue (Courtis 1995, 1998; Clatworthy & Jones 2001; Li 2008).



AR: Company's financial information report which can include also non-financial information.

CSR: Company's sustainability reports which include only non-financial information.

Figure 8. The scores of readability from the years 2006–2015 (total sample).

The results of readability scores seems to be same like Barkemeyer et al. (2014). The results of study by Barkemeyer et al. (2014) have also the higher scores with the CEO letters which are in annual reports. The difference is the years 2006, 2007, 2013 and 2014 when the readability scores of CEO letters in sustainability reports was higher than equivalent in annual reports. The scores can be one results of that issues of sustainability are changing annually which influence about the scores of readability. Or the writers are changing? As we can see from the figure 2 the CEOs have changed various amounts.

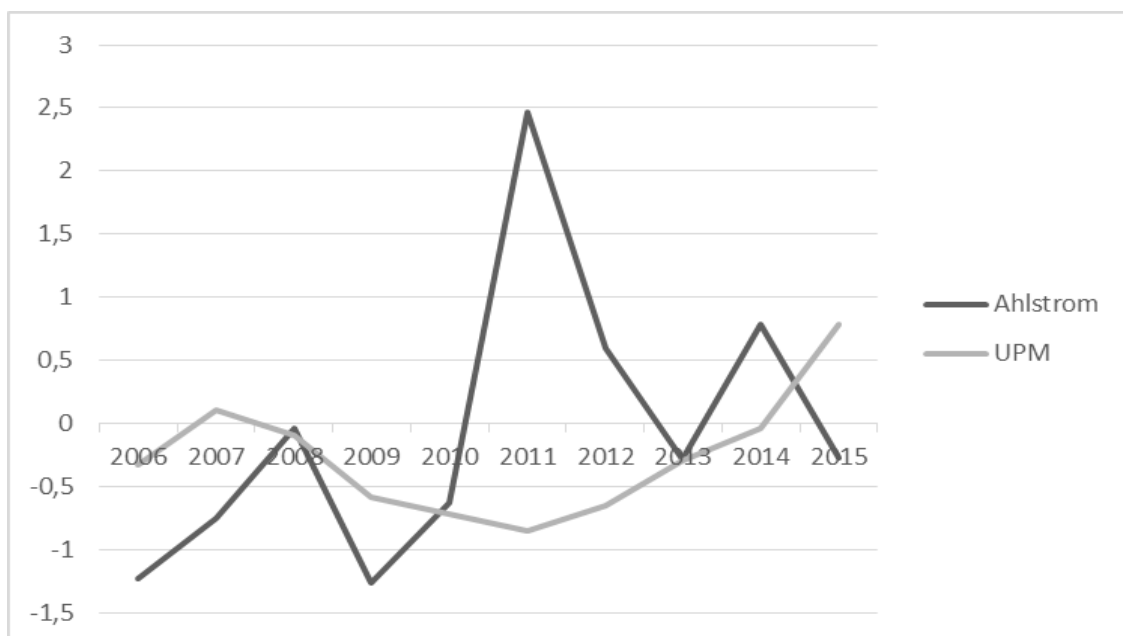


Figure 9. Ahlstrom Corporation and UPM firms' readability scores.

From the figure 9 we can see that the readability of the annual report of Ahlstrom Corporation seems to have higher scores than before the year 2011 which is the first year when they have separated their financial information and non-financial information to two independent reports. UPM has the same CEO and the combined-report all the time and their readability scores are more balanced. It is going lower from the year 2007 to the year 2011 and then it is going higher to the end of the period. The results are opposite of hypothesis 3 of this study.

Microsoft Word 2016 also measured the reports how long the words are which they are using in the letters. The words have almost the same amount of characters in both reports. The annual reports mean of characters per word was 5,39 when the same mean of characters per word in the sustainability reports was 5,58. The words in sustainability reports were longer than in the annual reports, but the difference is not marked at a general level. This study give not support for the hypothesis H3 "The overall degree of readability of CEO letters

of sustainability reports goes down over time, reflecting more representative character of corporate sustainability performance of sustainability reporting” (Barkemeyer et al. 2014).

5.4 Additional analysis

This study tries to focus on the perspectives which can explain the results and how the results can be different. The one perspective of study was to separate sustainability reports to two different sections. Those which are reporting in accordance with the GRI –guideline and those who are not. Almost every company, which create separate sustainability report does that in accordance with the GRI –guideline. Only one company was stopped the reporting in accordance with the GRI –guideline. The company was merged with other company in the year 2012. Almost every company started to reporting in accordance with the GRI –guideline.

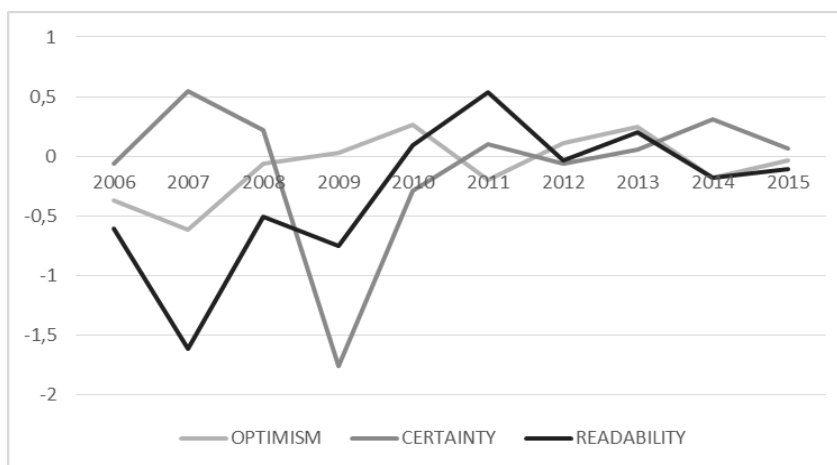


Figure 10. Optimism -, certainty – and readability scores of non-GRI companies.

Figure 10 will show the results of companies which are not reporting in accordance with the GRI –guideline. The scores of the figure 10 are sustainability reports. Annual reports aren't included to figure 10. There we can see that they seems to be find balance from the early 2010s and it is still going on. From the figure 3 and 8 we can see the optimism and readability scores which are not in balance in the same years in contrast to certainty scores are in balance. One reason can be the GRI -guidelines which have published 2011 and 2013 (GRI 2016), so companies which are reporting in accordance with the GRI –guideline had to change their reporting style because of the new reporting guidelines. The companies, which are not using the guidelines, don't have the compelling reason to change their style to report.

As we can see from the figure 8 the readability scores have gone up and down over time, but the figure 10 shows that the readability scores have been going down after the year 2011. The difference between these figures are the figure 10 includes only the companies which are not reporting in accordance with GRI –guideline and the figure 8 includes both companies those who are reporting in accordance with GRI –guideline and those who aren't. The reason why the readability scores are so different can be depending on the GRI –guideline because the GRI has published two new guidelines in the year 2010 and 2013 which can change the balance of sustainability reports (GRI 2016.)

Also all of the companies haven't attached the CEO letter to the sustainability report. The data of this study include also some companies which are create CEP letter as a video-message. Those video-messages are not part of the data, but the years when they have wrote CEO letters are part of the data of this study. The most of the companies, which are not reporting in accordance with the GRI –guideline, is also reporting with combined report which include both

information, financial and non-financial, but they have only one CEO letter. Those reports are part of the data. The results are part of scores of annual reports.

Table 4. Results of independent samples t-test including sustainability reports.

	Sectors	N	Mean	Std. deviation	Std. error mean	t-Test for equality of means															
						t	df	Sig. (2-tailed)	Mean difference	Std. error difference	95% Confidence Interval of the Difference										
											Lower	Upper									
Optimism	Financial Services	12	0,800	0,274	0,079	0,961	33,789	0,343	0,120	0,129	-0,13387	0,37386									
	Forest & Paper Products	25	0,920	0,483	0,097																
	Financial Services	12	0,800	0,274	0,079								1,481	20,437	0,154	0,177	0,119	-0,07186	0,42508		
	Energy	11	0,623	0,296	0,089																
	Forest & Paper Products	25	0,920	0,483	0,097								2,256	30,006	0,310	0,297	0,131	0,028147	0,56507		
	Energy	11	0,623	0,296	0,089																
Certainty	Financial Services	12	0,631	0,632	0,182	2,445	20,578	0,024	0,532	0,218	0,078993	0,985									
	Forest & Paper Products	25	0,099	0,593	0,119																
	Financial Services	12	0,631	0,632	0,182								0,006	20,952	0,996	-0,001	0,246	-0,51716	0,514		
	Energy	11	0,630	0,550	0,166																
	Forest & Paper Products	25	0,099	0,593	0,119								2,604	20,608	0,017	0,531	0,204	0,106	0,955		
	Energy	11	0,630	0,550	0,166																
Readability	Financial Services	12	0,813	1,132	0,327	-	2,198	25,933	0,037	-0,936	0,426	-1,811	-0,012								
	Forest & Paper Products	25	0,123	1,365	0,273																
	Financial Services	12	0,813	1,132	0,327									1,491	18,86	0,153	0,585	0,393	-0,237	1,408	
	Energy	11	0,228	0,723	0,218																
	Forest & Paper Products	25	0,123	1,365	0,273									-	1,004	32,582	0,323	-0,351	0,349	-1,062	0,36
	Energy	11	0,228	0,723	0,218																

Table 4 shows the difference between each sector. The data of this t-test is only sustainability reports. From the table 4, we can see the column “N” which means the amount of sustainability reports. Forest and paper products –sector seems to be report mostly with separate sustainability reports and other seems to have a

combined report which include also financial and non-financial information. From the column "N" we can see that forest and paper products –sector has 25 CEO letters which are included in sustainability reports. Unlike other sectors have 11 and 12 CEO letters. The column "mean" is the average of the numbers which is calculated. For example the mean of optimism scores of financial services is 0,800. You can find each number twice because there is three sectors and the t-test have done always with two of them. From the table 4, we can also find the column "Std. deviation." That column tells that how spread out the scores are.

The right side of the table 4 we see the t-test which tells about the difference between two sectors. There is three number which have bolded. As previous we have notice that CEOs which are working on financial services seems to be older than CEOs which are working on forest and paper products (figure 1.) Their average of ages of CEOs have become closer each other in the 2010s (figure 1.) From the table 4 the column "sig (2-tailed)" is three number which have bolded. Two of them are differences between financial services and forest and paper products. The certainty (0,024) and readability (0,037) scores are significant different between financial services and forest and paper products. Also we can see that certainty scores (0,017) are significant different between forest and paper products and energy. Can the reason for the significant difference be the CEOs which seems to be older in the financial service sector (figure1)? Could the language skills be better when the CEO is older or is that a coincidence?

Note that t-test (table 4) and the figure 10 aren't testing hypothesis of this study. The results of figure 10 and table 4 are additional analysis of this study. Previous study (Barkemeyer et al. 2014) didn't identify the data. This study identifies the data as we can see from the figure 10. The data has separate those who are reporting in accordance with GRI –guidelines and those who aren't. Also table 4

we can analyse the results with information of CEOs. Previous study (Barkemeyer et al. 2014) didn't identify the CEOs. This study identifies the CEOs which can find from the figure 1 and 2.

6. CONCLUSION

Before this study we already knew about the research by Barkemeyer et al. (2014) who were researching the same issue in different context. This study uses more specific perspectives for example the information of CEOs and are the companies reporting in accordance with the GRI –guideline or not. Firstly, this study focuses on the main concept of this study, sustainability. As we notice before, the term sustainability has many different kind of definitions. Patten & Zhao (2014) have taken note of we can't find one right definition of sustainability. Ackerman & Bauer (1976) have defined that sustainability actions happens in companies when they are observing the impacts on the companies function in society. The chapter, sustainability present the sustainability.

The second chapter focuses on identifying the study for the reporting and especially CEO letters. There is also the theory of accountability, legitimacy and impression of management. Sustainability reporting in general is becoming more common. One reason of it can be stakeholders which are more concerned and responsible about environmental and social issues (Brunk & Blümelhuber 2011; Arjaliés & Mundy 2013) and it can be influence their purchasing decisions (Lee & Shin 2010). The GRI is generally recognised the dominant framework. Its guidelines include all three parts which have defined by "triple bottom line" (Hrasky 2012). It has also create industry-specific guidelines for sustainability reporting (Cuganesan et al. 2010).

The data of this study is CEO letters. It is mostly part of sustainability report but it is always part of annual report. CEO letter is a set of complex communicative acts with symbolic, emotional, cultural and political overtones (Amernic, Craig & Tourish 2010). The used language in the CEO letters is a strategic form of sense-

making (Weick 1995). Especially annual reports or only financial reports are important instances of the use of language in the discourse of senior corporate leaders. CEO letters are offering valuable insight to the motives, attitudes and mental models of management (Amernic et al. 2010.) The CEO letters is one of the most read parts of the company annual reports (Clatworthy & Jones, 2003; Hyland, 1998). That is the reason why this study also choose the CEO letters as a data of this study.

The chapter of CEO letters also lead to hypothesis (Barkemeyer et al. 2014) which are

H1: "The overall degree of optimism of the rhetoric used in CEO letters of sustainability reports goes down over time."

H2: "The degree of certainty of the rhetoric of CEO letters in sustainability reports on average goes down over time, reflecting a more representative character of corporate sustainability performance of sustainability reporting."

H3: "The overall degree of readability of CEO letters of sustainability reports goes down over time, reflecting more representative character of corporate sustainability performance of sustainability reporting."

The theory of accountability, legitimacy and impression of management will figure out how we will look at the results. As we have notice before some studies have criticized for about the sustainability reporting lack of relevance and credibility (Husillos, Larrinaga & Álvarez 2011; Gray 2010; Joseph 2012). The GRI have recognised the same issue. The GRI has the dominant framework as discussed previously. The GRI can have impact of the credibility gap (Husillos, Larrinaga & Álvarez 2011; Gray 2010; Joseph 2012) and for example GRI G4 guideline promotes accountability and transparency in sustainability reporting by companies. Their guidelines are consistent with the accountability perspective

also (GRI 2015). This in turn promotes credibility amongst stakeholders (Barkemeyer et al. 2014).

At the same time the numerous of studies have argued that companies use sustainability reports as a tool to gain legitimacy for their operations (Cho & Patten 2007; Comyns et al. 2013; Deegan & Rankin 1996; Islam & Deegan 2010). Companies can use reporting to present their activities and performance in a positive light which can influence the public impression of the company (Hooghiemstra 2000).

After the theory, how this study will look at the results, is the chapter which figures out the data and research method. The data of this study is CEO letters which are publish in sustainability and annual reports. The study takes a longitudinal perspective about sustainability reporting so the CEO letters are from the years 2006–2015. All of the companies are from Finland and working in the field of energy, financial services or forest and paper products sectors. The data includes both the public and limited liability companies.

This study tests hypotheses by conducting a sentiment analysis 216 CEO letters of sustainability and annual reports during the years 2006-2015. This study focuses on two sentiment metrics and one readability scores which have calculated for the linguistic analysis of the CEO letters. The sentiment metrics are certainty which calculates risk mention (relating to hypothesis 1) and optimism which calculates positivity and negativity (relating to hypothesis 2.) Readability scores were calculated with Flesch Reading Ease –method (Kincaid, Fishburne, Rogers & Chissom 1975) (relating to hypothesis 3.) The sentiment metrics, certainty and optimism, have got by Diction (Hart & Carroll 2013) which is the text analysis program for determining the tone of a verbal message for example CEO letters. The readability scores have got by Microsoft Word 2016 which implements the original Flesch Reading Ease algorithm that is based on the

assumption that a text with longer sentences and longer words are more difficult to read. The sentiment metrics and readability scores have been converted into Z-scores by SPSS so the results are comparable across different sectors and dimensions. The method is the same as the previous study by Barkemeyer et al. (2014).

6.1 The main results

This study has create an analogy between the sustainability reports and annual reports. The findings presents that the difference between sustainability reports and annual reports by figures and also by descriptive analysis. Additional analysis has create by t-test where sustainability reports have tested each other by sectors. This study also create analogy between the CEOs and sectors, financial services, forest and paper products and energy. All of the companies are mainly working in Finland which is the reason why their native language is not English. However, the need of investors abroad all the reports, 48 sustainability reports and 167 annual reports, was written in English.

This study didn't give support for the hypotheses H1, H2 and H3 but presents reasons to the results. Optimism scores (figure 3) was at the same time lower when the gross domestic products of Finland (figure 4) was low also. The finding supports the research of McConnell et al. (1986). Figure 6 shows the second metric, certainty, how it has changed in long time period. The figure 7 shows the results of two companies. The first company has the same CEO all the time and the second company has changed the CEO four times. The company with four different CEOs (during the period about the years 2006-2015) seems to be lower

certainty –scores than other company. Also their scores are varied considerably. The third metric, the readability offers interesting perspective because the readability in sustainability reports total sample (figure 8) seems to have more variable scores during the period than those companies which are not reporting in accordance with GRI –guideline (figure 9.) The results of figure 9 seems to be more balance after the 2010s (GRI 2016). The one reason for the results can be that the GRI have published two new guideline after the 2010s. The companies which are reporting in accordance with GRI –guideline had to change their reporting style because of the new reporting guidelines. The companies, which are not using the guidelines, don't have the compelling reason to change their style to report.

Additional analysis were t-test (table 4.) The data of the t-test includes only sustainability reports. As previous we have notice that CEOs which are working on financial services seems to be older than CEOs which are working on forest and paper products (figure 1.) Their average of ages of CEOs have become closer each other in the 2010s (figure 1.) From the table 4 the column "sig (2-tailed)" is three number which have bolded. Two of them are differences between financial services and forest and paper products. The certainty (0,024) and readability (0,037) scores are significant different between financial services and forest and paper products. Also we can see that certainty scores (0,017) are significant different between forest and paper products and energy. Can the reason for the significant difference be the CEOs which seems to be older in the financial service sector (figure1)? Could the language skills be better when the CEO is older or is that a coincidence? Note that t-test (table 4) isn't testing hypothesis of this study.

6.2 Limitations of the study

As in the case for most research, this study has limitations which will have an impact on the application of the main findings as well as the interpretation of the researcher. Especially, this study is aware of the limitations affecting data and research methods. The data of this study is the CEO letters which should be written by the CEOs but we can't be sure of that. The native language of the CEOs of the companies of this study are not English which can influence the scores because this study focuses on the used words of the CEO letters. Also every company usually has a communication department or some person who will review and edit the CEO letter if the CEO is writing the letter by him/herself. This study identifies the CEOs like average age of them by sectors (figure 1) and also the succession of different CEOs of the same company (figure 2.) The gender of CEOs is one-sided because every CEO of this study was male except for one exception one female who was CEO in the year 2015. This study did not select only companies which are having male CEOs. The reason of the results is simply that the CEOs in Finland are mainly male. This study focuses on three different sectors which are operating mostly in Finland. That can include the risk of missing different dynamics because of the restriction of three sectors.

This study used a variety of software which haven't been customized for the specific language and style. Because of longitudinal perspective (the years 2006-2015) the results of this study can be exist confounders. We have to also note that the perceived status of sustainability reports have been changing over time. The findings of this study could still be a close measure of metrics, optimism, certainty and readability. (Barkemeyer et al. 2014). There are also show additional analysis which have lead from the results.

The results of this study can't be generalized because the data of this study were collected only from the three sectors. Also, the generalization will need more data from different countries.

6.3 Further research

The research can focus on the same data but focus more on CEOs. For example, this study considers only the CEOs who are male, except for the one female CEO from the year 2015. So the same study can be implemented with comparing the gender of CEOs each other. The impact of the CEOs' ages for the results will be also interesting. As we can find in this study, there are some signals that the age can influence the results.

CEO letters are one of the most read parts of the annual reports (Clatworthy & Jones, 2003; Hyland, 1998). We have to notice that it is the most read part of the annual reports. At least the most read parts of the sustainability report have not been researched. The verbal tone of the sustainability report can be researched, for example, by comparing different parts of the sustainability report each other. That can be easier if the data of the study will use, for example, the GRI-guidelines. The limitation of this study were also the sectors. The same study can be created by different sectors.

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APPENDIX 1. The definitions of terms of formula of certainty

The definitions of terms of formula of certainty. The definitions are from Diction Help Manual. (Hart & Carroll 2013).

Formula: [Tenacity + Leveling + Collectives + Insistence] - [Numerical Terms + Ambivalence + Self Reference + Variety]

Tenacity	All uses of the verb to be (is, am, will, shall) three definitive verb forms (has, must, do) and their variants, as well as all associated contraction's (he'll, they've, ain't). These verbs connote confidence and totality.
Leveling	Words used to ignore individual differences and to build a sense of completeness and assurance. Included are totalizing terms (everybody, anyone, each, fully), adverbs of permanence (always, completely, inevitably, consistently), and resolute adjectives (unconditional, consummate, absolute, open-and-shut).
Collectives	Singular nouns connoting plurality that function to decrease specificity. These words reflect a dependence on categorical modes of thought. Included are social groupings (crowd, choir, team, humanity), task groups (army, congress, legislature, staff) and geographical entities (county, world, kingdom, republic).

Insistence

This is a measure of code-restriction and semantic contentedness. The assumption is that repetition of key terms indicates a preference for a limited, ordered world. In calculating Insistence, all words occurring three or more times that function as nouns or noun-derived adjectives are identified (either cybernetically or your assistance) and the following calculation performed: [Number of Eligible Words x Sum of their Occurrences] ÷ 10. For small input files, high-frequency terms used two or more times are used in the calculation.

Numerical Terms

Any sum, date, or product specifying the facts in a given case. This dictionary treats each isolated integer as a single word and each separate group of integers as a single word. In addition, the dictionary contains common numbers in lexical format (one, tenfold, hundred, zero) as well as terms indicating numerical operations (subtract, divide, multiply, percentage) and quantitative topics (digitize, tally, mathematics). The presumption is that Numerical Terms hyper-specify a claim, thus detracting from its universality.

Ambivalence

Words expressing hesitation or uncertainty, implying a speaker's inability or unwillingness to commit to the verbalization being made. Included are hedges (allegedly, perhaps, might), statements of inexactness (almost, approximate, vague, somewhere) and confusion (baffled, puzzling, hesitate). Also included are words of restrained possibility (could, would, he'd) and mystery (dilemma, guess, suppose, seems).

Self-Reference

All first-person references, including I, I'd, I'll, I'm, I've, me, mine, my, myself. Self-references are treated as acts of indexing whereby the locus of action appears to reside in the speaker and not in the world at large thereby implicitly acknowledging the speaker's limited vision.

Variety

This measure conforms to Wendell Johnson's (1946) Type-Token Ratio which divides the number of different words in a passage by the passage's total words. A high score indicates a speaker's avoidance of overstatement and a preference for precise, molecular statements.

APPENDIX 2. The definitions of terms of formula of optimism

The definitions of terms of formula of optimism. The definitions are from Diction Help Manual. (Hart & Carroll 2013).

Formula: [Praise + Satisfaction + Inspiration] - [Blame + Hardship + Denial]

- Praise** Affirmations of some person, group, or abstract entity. Included are terms isolating important social qualities (dear, delightful, witty), physical qualities (mighty, handsome, beautiful), intellectual qualities (shrewd, bright, vigilant, reasonable), entrepreneurial qualities (successful, conscientious, renowned), and moral qualities (faithful, good, noble). All terms in this dictionary are adjectives.
- Satisfaction** Terms associated with positive affective states (cheerful, passionate, happiness), with moments of undiminished joy (thanks, smile, welcome) and pleasurable diversion (excited, fun, lucky), or with moments of triumph (celebrating, pride, auspicious). Also included are words of nurturance: healing, encourage, secure, relieved.
- Inspiration** Abstract virtues deserving of universal respect. Most of the terms in this dictionary are nouns isolating desirable moral qualities (faith, honesty, self-sacrifice, virtue) as well as attractive personal qualities (courage, dedication, wisdom, mercy). Social and political ideals are also included: patriotism, success, education, justice.
- Blame** Terms designating social inappropriateness (mean, naive, sloppy, stupid) as well as downright evil (fascist, blood-thirsty, repugnant, malicious) compose this dictionary. In addition, adjectives describing unfortunate circumstances (bankrupt, rash, morbid, embarrassing) or unplanned vicissitudes (weary, nervous, painful, detrimental) are included. The dictionary also contains outright denigrations: cruel, illegitimate, offensive, miserly.

Hardship This dictionary contains natural disasters (earthquake, starvation, tornado, pollution), hostile actions (killers, bankruptcy, enemies, vices) and censurable human behavior (infidelity, despots, betrayal). It also includes unsavory political outcomes (injustice, slavery, exploitation, rebellion) as well as normal human fears (grief, unemployment, died, apprehension) and in capacities (error, cop-outs, weakness).

Denial A dictionary consisting of standard negative contractions (aren't, shouldn't, don't), negative functions words (nor, not, nay), and terms designating null sets (nothing, nobody, none).