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SUSTAINABILITY IN THE FINNISH FOREST INDUSTRY

Change in cognition and dominant logic of three companies

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ABSTRACT

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Sustainability in the Finnish forest industry: Change in cognition and dominant logic of three companies

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Sustainability has become a common concept in the recent decades. As a result, increasing attention is paid on how sustainability issues are managed by companies. The aim of this study is to examine how the role and view of sustainability has evolved in three companies in the Finnish forest industry by analysing common themes in their reporting. Additionally, this study discusses the change in cognition and dominant logic among the companies based on this evolution. The empirical research is conducted as a multiple case study, in which the contents of case companies' reports are analyzed using the coding method. The findings indicate that evolution has occurred in the reporting of the case companies regarding notions related to sustainability. The included sustainability themes have gradually diversified and become increasingly fundamental in the reports. Sustainability notions have evolved towards higher complexity and inclusion of social issues alongside environmental concerns. In addition, the way in which sustainability is viewed among the companies, appears to have changed over time from being a mere compliance necessity, to also being seen as an opportunity. It is concluded that the case companies appear to be in a period of gradual change in cognition and dominant logic towards more holistic view and adaptation of sustainability.

TIIVISTELMÄ

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Kestävyys Suomen metsäteollisuusalalla: Kognition ja keskeisen logiikan muutos kolmessa yrityksessä

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Kestävyydestä on tullut yleinen käsite viimeisimpien vuosikymmenten aikana. Tämän seurauksena huomiota on alettu kasvavassa määrin kohdistaa myös yrityksiin ja siihen, miten ne huomioivat kestävyysasiat. Tässä tutkielmassa tarkastellaan kestävyysasioiden roolin kehittymistä kolmen suomalaisen metsäteollisuusyrityksen raportoinnissa, niissä esiintyvien yleisten teemojen kautta. Lisäksi käsitellään, mitä tämä kehitys kertoo yrityksissä tapahtuneesta kognition muutoksesta sekä kestävydestä osana keskeistä liiketoimintalogiikkaa. Empiirinen tutkimus toteutettiin monitapaustutkimuksena, jossa yritysten raporttien sisältöä analysoitiin koodausmenetelmää hyödyntäen. Tulokset osoittavat, että kestävyteen liittyvä raportointi on sisällöllisesti muuttunut tarkastelluissa yrityksissä. Kestävyysteemojen kirjo on vähitellen monipuolistunut ja niiden rooli yritysten raportoinnissa on tullut yhä olennaisemmaksi. Perinteisten ympäristöteemojen ohella, sosiaalisen kestävyden aiheet noteerataan raportoinnissa yhä kattavammin. Kestävyys näissä yrityksissä vaikuttaisi ajan myötä kehittyneen suuntaan, jossa sitä ei nähdä ainoastaan välttämättömänä osana säädösten noudattamista, vaan myös mahdollisuutena. Tarkasteltujen yritysten kognition ja keskeisen liiketoimintalogiikan nähdään olevan vähittäisessä muutoksessa kohti kokonaisvaltaisempaa kestävyysajattelua ja sen soveltamista käytännössä.

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CONTENTS

1 INTRODUCTION.....	8
1.1 Background.....	8
1.2 Research questions.....	9
1.3 Delimitations.....	10
2 LITERATURE REVIEW.....	11
2.1 Sustainability.....	11
2.1.1 Corporate sustainability.....	13
2.1.2 Dimensions of sustainability.....	13
2.1.3 Drivers of Sustainability.....	17
2.1.4 Sustainability in different industries.....	23
2.1.5 Sustainability in the forest industry.....	25
2.1.6 Forest industry in Finland.....	27
2.2 Managerial cognition and dominant logic.....	28
2.2.1 Cognition and managerial cognition.....	28
2.2.2 Dominant logic.....	32
3 RESEARCH METHODOLOGY.....	35
3.1 Research context and case description.....	35
3.2 Data collection and validity.....	36
3.3 Data analysis methods.....	37
4 FINDINGS.....	40
4.1 Reporting of UPM.....	42
4.2 Reporting of Metsä.....	49
4.3 Reporting of Stora Enso.....	54
4.4 Overview of phases in dimensional levels.....	60
4.4.1 Stora Enso.....	60
4.4.2 Metsä.....	63
4.4.3 UPM.....	64
4.5 Comparison of the case companies.....	67
4.6 Overview of apparent sustainability drivers in companies' reporting.....	69
5 DISCUSSION AND CONCLUSIONS.....	72
5.1 Reflection of themes and prior literature.....	72
5.2 Reflection on cognition.....	75

5.3 Implications of dominant logic	77
5.4 Contributions and limitations of the study	79
5.5 Future research suggestions	80
REFERENCES.....	81

TABLES AND FIGURES

Figure 1. Dimensions of sustainability

Table 1. The analysed sustainability-related reports

Table 2. Themes in the sustainability-related reporting of UPM

Table 3. Themes in the sustainability-related reporting of Metsä

Table 4. Themes in the sustainability-related reporting of Stora Enso

LIST OF ABBREVIATIONS

CSR – Corporate Social Responsibility

GRI – Global Reporting Initiative

UNFCCC – United Nations Framework Convention on Climate Change

WCED – World Commission on Environment and Development

1 INTRODUCTION

The purpose of this chapter is to provide an introduction to the topic of this thesis. The aim is to shed light on the background of this study, giving an understanding of the importance of the subject at hand and the motivation for conducting a research on it. Based on the scope and aspirations of this study, a research question along with sub-questions are formulated. In addition, this chapter provides remarks of justification for the chosen topic and research questions, along with notes of delimitations.

1.1 Background

Sustainability as a concept has been gradually popularized in the past few decades. It has become central theme in a truly global scale, spreading from political discussions amongst world leaders to communal discourse between regular people. Sustainability concerns have penetrated all societal levels, being shared with political decision-makers and average consumers alike. (Redclift 2005) The rise of sustainability as a major concern and consequent influencer on people's conceptions of the world has driven commercial entities to acknowledge the need for a proper addressing of the issues at hand. Corporations do not exist detached from the general society, and are therefore inherently and fundamentally influenced by its values. Increasing call for considerations over sustainability issues has led firms – to varying extents and degrees - to take sustainability seriously and incorporate appropriate measures in their ways of operating. (Henriques & Sadorsky 1996; Chang et al. 2013; Pätäri et al. 2016; Santini et al. 2013)

The increasing demand by the public for pro-sustainability efforts has created a new field of corporate reporting revolving around these issues. This study focuses on companies' communication of sustainability-related issues, attempting to discover how the emphases in sustainability speech has changed and evolved among the selected companies in a specified industry. This thesis examines possible common themes in the sustainability-related communication of the case companies as expressed in their annual reporting. In terms of theoretical basis, the changes in

sustainability-related reporting are further discussed in relation to cognition in corporate/organizational context.

1.2 Research questions

Against the described background, it is interesting to examine how the popularization of sustainability as a phenomenon and the intensified discussion around it has affected the content disclosed by companies regarding their actions and aspirations to the public, and what kind of impact the sustainability phenomenon has had on the companies' core way of thinking and perceiving themselves regarding operative issues. The case companies have been selected from a resource-exhaustive industry with notable potential impact on the natural environment. Prior research in the field indicates that companies in such industries have attracted a significant amount of public attention and pressure to address a variety of sustainability-related concerns (Chang et al. 2013; Lozano 2012; Henriques & Sadosky 1996; Labuschagne et al. 2005). The companies under such attention and pressure are – arguably – likely to have responded and addressed the issue in some way (Chang et al. 2013; Jose & Lee 2007). This study takes on the presumption that managerial cognition and subsequent dominant logic are manifested in annual reports (e.g. Maijanen 2015; Kaplan 2011), and examining sustainability in the reports thus provide knowledge of sustainability in managerial cognition and as a part of dominant logic. The case companies, the examined data, and justifications for these selections are presented in the methodology chapter (Chapter 3).

To examine the evolution of the role and view of sustainability in the case companies, the following research question with specifying sub-questions were formulated:

How has the role and view of sustainability evolved in the case companies' annual reports?

- What kind of themes and/or thematic periods can be identified?
- What are the similarities and differences of the themes and/or thematic periods among the case companies?

- What can be said about the change in cognition and dominant logic in the Finnish forest industry based on the evolution of sustainability-related themes in the case companies?

1.3 Delimitations

The scope of this research is on sustainability as a phenomenon or trend and how its popularization is reflected in the cognition and dominant logic of the studied companies. Having sustainability as a general influencer in the background, the case companies are examined with particular interest in how sustainability appears and how it has evolved in their reporting. The data used for examining the appearance and evolution of sustainability within the studied companies is in form of annual reports. The validity and the reason for using companies' annual reports as data source for such examination is explained in greater detail in the methodology chapter (Chapter 3).

This study does not attempt to give a detailed description or an assessment of the actual executed sustainability practices among the studied companies, nor does it evaluate companies' sustainability performance in itself. The purpose of this thesis is not to evaluate the quality of sustainability reporting either. The focus of this study is on how sustainability-related notions change and evolve in the companies' public communication – expressed in annual reports – within the observed time frame, and what the examination of that information tells about the cognition and dominant logic in the case companies, and whether industry-level similarities can be detected.

2 LITERATURE REVIEW

This chapter presents and discusses scholarly contributions in the fields of research which are relevant to the topic of this study. First, an overview of sustainability as a concept and phenomenon is provided. This is to cater the reader with a general understanding over the issues from which sustainability stems, and how it has evolved. Based on secondary scholarly sources, this chapter presents how sustainability has traditionally been conceptualized, and what sorts of phenomena in the world appear to be the most notable driving forces behind sustainability and its popularization. Sustainability in this chapter is primarily discussed in corporate/organizational context, including a closer look at the forest industry in Finland, which is under particular inspection in this study.

After this, the reader is given an introduction to the cognition field of research, in which this study's core concepts – (managerial) cognition and dominant logic – are explained and further discussed in corporate context, assuring high relevance to this study.

2.1 Sustainability

Sustainability as a concept has been increasingly popularized during the past few decades (Redclift 2005). Sustainability is commonly known as a word amongst people and a vast amount of information circling around the concept exists. However, sustainability as a concept appears to be rather ambiguous by nature, when taking a closer look at the multitude of different definitions given to describe it. (Glavic & Lukman 2007; Mebratu 1998) The various definitions appear to have a tendency to describe sustainability in a rather one-dimensional way, depending on for instance the approach and the context in which a particular definition is made. (e.g. Byrne et al. 2010; Dempsey et al. 2009) The terms sustainability and sustainable development are often used quite synonymously in both vernacular and academic discourse (Perelet et al. 2014; Byrne et al. 2010) and no particular distinction is applied in regards to these terms in this study. There seems to be a lack of one exhaustive and all-inclusive view of sustainability as a concept which

could be utilized as a cornerstone in further discussion and developmental dialogue. In order to understand the intricacies of this issue and – even more importantly – the significance of the concept of sustainability in the modern world, it is vital to have an understanding of the history and reasons behind the popularization of sustainability concept as a part of common discourse.

The concept of sustainability became known in its modern context in a book called *Limits to growth*, published by the Club of Rome in 1972. (e.g. Bartlett 2006; Heinberg 2010; Millar et al. 2012) The book found that the limits of economic growth would soon be reached if the extent of – for example – population growth, pollution and resource use did not drastically change. The way of doing things was unsustainable and had to be transformed for the sake of economic and ecological balance. (Turner 2008)

Sustainability as a global concern was later popularized in 1987 in the report of the United Nations World Commission on Environment and Development (WCED) called *Our Common Future* – also known as the Brundtland Report. (e.g. Redclift 2005; Bartlett 2006; Heinberg 2010; Millar et al. 2012; Harris 2000) This arguably seminal report was a comprehensive consideration revolving the idea of sustainable development and the emergent need for a fundamental shift in how businesses and public entities view and manage themselves. The report acknowledged the dilemma that economic growth was needed for alleviating poverty, but it also had a tendency to contribute to ecological degradation (Adams 2006).

Perhaps one the most commonly used definitions of sustainable development comes from the Brundtland Report (WCED 1987) defining it as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. Regardless of the apparent prevalence of this particular definition, the concept of sustainability/sustainable development appears remarkably ambiguous in the existing research (e.g. Keiner 2006; Bartlett 2006; Kuhlman & Farrington 2010). There is simply no unanimously agreed upon definition for sustainability (e.g. Byrne et al. 2010; WCED 1987) or even a specific view of what sustainability – in all – even entails (Keiner 2006).

2.1.1 Corporate sustainability

In the absence of consensus regarding definitive outlines and exact metrics for measuring and assessing sustainability (e.g. Adams 2006), corporations are – nonetheless – expected to formulate their activities in accordance with the sustainability ideals. The concept of corporate sustainability in – perhaps – its simplest form refers to sustainable development thinking being systematically incorporated in a company (Baumgartner & Ebner 2010). Steurer et al. (2005) quite fittingly capture the inherently complex and ambiguous – even vague – nature of corporate sustainability as a concept by defining it as a “guiding model, addressing the short- and long-term economic, social and environmental performance of corporations”.

The ambiguity of the terms used in sustainability discourse and the lack of shared understanding of (corporate) sustainability in its entirety poses a challenge to corporate entities. There are – however – certain rather commonly acknowledged aspects to sustainability, which are to be considered and covered by corporations in the process of formulating their activities with a coherent sustainability mind-set (GRI 2000). These aspects fall under a three-dimensional view, which – in accordance with the topic of the thesis – are in the following segment discussed primarily from the corporate perspective.

2.1.2 Dimensions of sustainability

Although certain aspects of sustainability thinking may be emphasized depending on the context in which it is applied and the agent in question (e.g. Dempsey et al. 2009; Byrne et al. 2010), the holistic view of sustainability is commonly perceived to have three general dimensions. This view includes the environmental, the economic, and the social dimensions. (e.g. Adams, 2006; Kuhlman & Farrington, 2010; Murphy 2012; Harris 2000) The thinking behind the three-dimensional formulation of sustainability corresponds with the so-called Triple Bottom Line concept which functions as a framework for companies to assess their performance beyond financial indicators. Triple Bottom Line – much like the three-dimensional view of sustainability – takes into consideration factors in social, environmental

(ecological), and financial (economic) levels in the evaluation of a company's performance. (Elkington 1997; Kuhlman & Farrington, 2010) The term itself was originally coined by John Elkington in 1994, along with the encapsulating phrase "People, Planet, Profit" soon after. (Norman & MacDonald 2003; Elkington 1997) The three-dimensional view of sustainability has also been criticized by claiming that it implies that it is possible to be sustainable also by doing trade-offs between the dimensions, meaning that if a company performs poorly in regards of one of the three dimensions, it can compensate it by performing "extra highly" in regards to another dimension. This has generated a conceptual distinction of "weak" and "strong" sustainability. Weak sustainability refers to allowing such trade-offs, whereas in the case of strong sustainability compromises of this sort are either not permissible or restricted. (Adams, 2006; Cabeza Gutés 1996) This view often emphasizes the non-substitutable quality of natural capital, calling for higher responsibility in regards to the environmental dimension of sustainability (Steurer et al. 2005; Cabeza Gutés 1996). The concept of balanced sustainability – which has a rather compromising practical nature – lies somewhere between the two extremes (Steurer et al. 2005).

These three dimensions are not to be considered mutually exclusive and separate paths in the attempt to ensure high level of sustainability in one's actions, but equally important areas to cover in order to attain a sustainable state (e.g. Baumgartner & Ebner, 2010; Labuschagne et al. 2005).

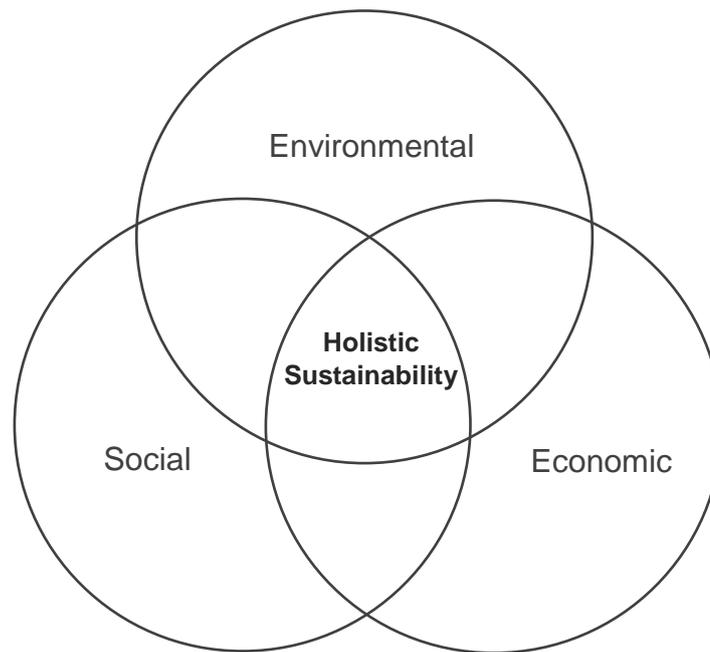


Figure 1. Dimensions of sustainability

Environmental dimension

The environmental – sometimes *ecological* – dimension of corporate sustainability regards issues which have to do with corporate activities' impacts on the natural environment and how natural resources are used (Baumgartner & Ebner 2010; GRI 2000). The environmental impacts under assessment occur – for instance – as a result of certain type of waste and resource management or possible emissions into air, soil or water. In a comprehensive view, not only the immediate effects of corporate actions are under scrutiny, but the long-term influence in biodiversity and e.g. the effects of a product over its entire life cycle as well. (Baumgartner & Ebner 2010)

Social dimension

The social dimension of sustainability – as sustainability in general as well – has turned out to be rather challenging to strictly define. There is no scholarly consensus regarding what the social dimension in this context ultimately includes. (Murphy 2012; Dempsey et al. 2009) In a general level, this dimension can be considered to

cover basically everything that relates to effects on human condition (Murphy 2012). From a corporate sustainability perspective that essentially refers to all the activities and policies of a corporate entity which have or can potentially have an effect on people. In its broadest perception, social sustainability is rather ambiguous in meaning – to say the least (Murphy 2012). In a more practical level, the social dimension in this context often refers to the relation of companies with their stakeholders – both internal and external. (Baumgartner & Ebner 2010) The internal stakeholder aspect in this context includes how a company manages e.g. its employees and contributes to the improvement of their well-being. The external stakeholders constitute all the people outside the company who are or can potentially be influenced by its actions. (GRI 2000) Actions which can be considered to be enhancing social sustainability can occur in numerous ways, ranging from e.g. investments in infrastructure in poverty-stricken areas and direct donations of basic living supplies to generating social capital through localized empowerment of people in problematic social environments, and promotion of awareness regarding global grievances through stakeholder education (e.g. Baumgartner & Ebner, 2010; Dempsey et al., 2009; GRI 2000).

Economic dimension

The economic dimension of sustainability is the dimension which is perhaps the most critical one to be properly adjusted from the corporate perspective. This adjustment can be thought to determine whether a company will be financially successful or even cease to exist altogether. What is meant here is that a company can indeed manage itself and its activities in a very sustainable way from the social and environmental perspectives, but if the third – economic – dimension is not managed properly, the company will soon not have the resources to continue operating. Baumgartner & Ebner (2010) distinguish this basic corporate need, stating how “economic sustainability embraces general aspects of an organization that have to be respected – next to environmental and social aspects – in order to remain in the market for long time”. Crucial aspects in corporate sustainability from the economic perspective have to do with e.g. knowledge management,

collaboration, reporting practices and process design, along with innovation and technology management related issues. (Baumgartner & Ebner 2010)

2.1.3 Drivers of Sustainability

Sustainability has become one of the defining trends of our time. Call for increasingly intense sustainability consciousness affects all walks of human life, from governments and public entities to private corporations and individual consumers. There is no external force pushing all these entities towards higher sustainability consciousness, but rather humankind as a whole generates the demand by acknowledging – albeit slowly – the practical limits of nature and our place in its midst.

In this chapter, the attempt is to grasp a basic understanding of the drivers of sustainability. In accordance with the scope of this thesis, the driving forces are primarily discussed from corporate perspective, i.e. in regards to how and why certain issues influence the policies and actions of companies.

The drivers of sustainability can be divided into two basic categories – internal and external drivers. Internal drivers stem from within a company, whereas the external drivers are a result of the influence of the environment outside a company (Santini et al. 2013). When it comes to sustainability – however – the outlines of these categories are not at all clear-cut. In fact, there are often external attributors to seemingly internal drivers, and vice versa (Lozano 2015).

Regulatory changes, legislative demands

What are often considered foundational driving forces for higher sustainability are regulatory issues, such as changes in laws and regulatory policies established due to environmental concerns. These concerns revolve around the growing indications of climate change and global warming. The magnitude of the importance of such environmental concerns, and their inevitable effect on how we as a global population manage our business became apparent. The Brundtland Report in 1987 –

mentioned earlier – played a pivotal role in the raising of awareness regarding particularly environmental sustainability issues and functioned as a starter for global discussion around the subject. The need for coherent regulatory guidelines became globally acknowledged. In the following decade, the UN Framework Convention on Climate Change (UNFCCC) was established in Rio de Janeiro in 1992, providing regulatory guidelines for member countries to aspire towards environmental degradation. The UNFCCC laid a foundation for the 1997 Kyoto Protocol, which committed the signees to actively attempt to reduce their greenhouse emissions in particular. These changes resulted in the call for more intense auditing of companies' environmental impacts and created a corporate demand for sustainability reporting. Sustainability-related reporting started to become increasingly common and developed gradually. (Gopalakrishnan et al. 2012; Lozano 2013; Benn et al. 2014, 49-50)

Government legislation has been found to have the most notable impact on companies' sustainability orientation – driving business towards greater sustainability (Berns et al. 2009). Nonetheless, the effects of legislative restrictions and regulatory frames are not limited to the wished compliance by companies. Even though e.g. legal fees and possible fines given by governmental entities generate unwanted costs, often far longer lasting source of negative effect on companies is not merely the direct punitive damages and consequential costs, but how a company is perceived by the public.

Stakeholder pressure and public demand

The pressure from stakeholders – internal and external – has been steadily intensifying its significance as a driver of sustainability (Santini et al. 2013). The concept of a stakeholder in relation to a company basically includes any individual or group which is or can be affected by the company's actions. Because of the growing stakeholder pressure, companies must apply consideration over sustainability issues in whatever they do. Negative implications of ignoring the growing concerns have the potential of extending far beyond the direct costs to a company caused by e.g. fines. Sustainably inconsiderate behaviour can tarnish

company's reputation and have long-lasting stain on how the company is perceived. Such a negative reputation is not easily fixed for the better by reactive actions and superficial damage control. Discontent among external stakeholders – e.g. consumers and business co-operators – is likely to hinder their willingness to engage with a company and use its services. This potentially has a direct negative impact on the company's financial performance – the part of the triple bottom line which ultimately determines the continuation of the company's existence. The most dramatic cases exemplifying external stakeholders' discontent over a company are boycotts, when certain groups, individuals or entities proclaim to abstain indefinitely from using the services of a company altogether. More subtle forms of disfavoured a certain company can – nonetheless – be equally harmful to a company, having deteriorating impact on the company's performance in the long-term. (Giunipero et al. 2012; Santini et al. 2013; Gopalakrishnan et al. 2012; Kemp et al. 2004; Epstein & Roy 2003, 79-96; Benn 2002)

The stakeholder pressure and potentially disadvantageous effect on company's performance is not restricted to the external stakeholders. The internal stakeholders – e.g. employees – are not exempt from being discouraged by the actions of their employer. Sustainably inconsiderate or downright harmful behaviour by the employer can potentially affect the overall moral of the employees in a negative way. Lowering of motivation as a result of misconduct or inadequate pro-sustainability contribution is likely to weaken an individual employee's work performance. If such a phenomenon extends through a significant share of workforce, the negative impact on the company's overall performance is inevitable. Disregard over sustainability issues can have multi-levelled damaging reflections on a company, which will only accumulate over time. (Giunipero et al. 2012; Benn 2002)

Being merely compliant with the legal limitations and responding to sustainability-related concerns as they emerge is often labelled as a reactive approach to sustainability. However – as said – the actual cost of non-compliance with e.g. laws or common regulatory principles consists of far more influencers than direct fines. The public demand in the global marketplace (Saez-Martinez et al. 2016; Santini et al. 2013) by external stakeholders is also increasingly calling not only for legal and

regulatory compliance, but a proactive stance on sustainability issues from companies. This pressure for proactiveness has been particularly potent for large multinational corporations, as their choices have truly notable implications in a global scale (Meehan & Bryde 2011). Such a proactive stance is – however – by no means a mere nuisance or anticipatory damage control for companies. Proactiveness in these matters has in fact been seen as beneficial for companies as opposed to the reactive approach to sustainability. (Gopalakrishnan. et al. 2012; Porter & van de Linde 1995)

Resource depletion

One of the core drivers of sustainability is the depletion of resources, which has become increasingly apparent during the latest few decades. Modern research has shown that the way natural resources have been used has indeed put a toll on nature. Natural resources are dwindling, yet they continue to be exploited without necessary caution. The global community – along with corporations – are beginning to grasp the reality of the situation and understand the gravity of the facing challenge. Reckless use of natural resources is simply not sustainable behaviour in the long run. Not only is such behaviour not ideal from the sustainability perspective, but – frankly – it is not even theoretically possible to continue using the natural resources in the traditional way infinitely. (Gopalakrishnan. et al. 2012.; Kemp et al. 2004; Epstein & Roy 2003, 79-96; Epstein & Roy 2001; Santini et al. 2013)

In the current situation, companies are lead to compete against each other for the depleting natural resources, whilst being aware of the fact that such a situation cannot go on forever. This has begun to drive companies to search for alternative ways of operating and cooperating with each other to find common ground in order to find solutions to the challenge. A common concept in the discussion regarding sustainable solutions is resource efficiency. This generally refers to the idea of utilizing existing resources in a more efficient way by making systematic optimizations throughout supply chain. Resource efficiency equals cost efficiency which is always attractive to businesses and as such it functions as a stimulant

encouraging more sustainable practices. (Gopalakrishnan et al. 2012; Giunipero et al. 2012)

The challenge of resource depletion has also driven willingness to establish common rules for the use of natural resources and guidelines for decent behaviour in the social environments in which companies operate. (GRI 2000) In the core of all this is the sustainability mind-set, and the realization of the logical fact that utter exhaustion of resources obviously does not serve anyone's interest. The public knowledge over resource depletion also attracts stakeholders' attention on the issue, causing companies to wish to portray a positive image of themselves as ethical entities. Bad reputation tends to reflect negatively on the business in one way or another, and this in itself – to certain extent – drives sustainable way of thinking within companies, or at least draws attention to the issue. (e.g. Epstein & Roy 2003, 79-96)

Even though the challenges brought by resource depletion can be considered to be driving the popularization of sustainability, the acknowledgement of the necessity for change does not in itself generate any major-scale, practical solutions to the problem at hand. Resource depletion has developed too far for minor adjustments to be enough at this point. There is a need for innovative solutions, and innovation is undeniable facilitated by the global knowledge-sharing spirit and the practical possibilities as a result of modern technological advances. Sustainability concerns can be seen as one of the greatest drivers for innovation (Nidumole et al. 2009), but reciprocally the innovative attitude itself drives higher sustainability thinking as new ideas provide possibilities for tackling the issue and – at the same time – make it increasingly difficult for corporate entities to claim a lack of potential solutions.

As can be seen, the resource depletion as a driver is not a separate one or in any way clearly distinguishable factor, but rather functions almost as an original inspiration for regulatory changes and stakeholder pressure.

Globalization as a general contributor to sustainability

Even though nature-related issues – climate change and resource depletion – have caught the public attention, what has truly made it possible for sustainability to become part of world-wide discussion is the role of globalization in general. Particularly multinational corporations operate in a global marketplace which does not occur without implications. Due to modern information and communication technology, knowledge travels fast, widely and extensively, keeping people well aware of current issues – including social and environmental wrongdoings. All this contributes to sustainability as it puts pressure on governments and companies to operate with sustainable mind-set, but – on a positive note – also provides an enormous global network for sharing knowledge about how to conduct oneself in a more sustainable way. (Gopalakrishnan. et al. 2012; Redclift 2005)

Competitive advantage potential as driver

However, it is important to note that it is not only fear of depleting resources or reputational damage that drive sustainability within companies in an internal level. Companies are increasingly acknowledging sustainability – particularly proactive approach to it – as a mean to gain competitive advantage (Millar et al. 2012; Giunipero et al. 2012; Epstein & Roy 2001) As previously mentioned, laws and regulations oblige companies to certain extent, but a mere compliance does not provide one with an advantage over competitors in the eyes of e.g. consumers, partners or co-operators (Berns et al. 2009; Benn et al. 2014).

To strive for true competitive advantage, a company must appear proactive regarding its sustainability efforts. Any sustainably positive efforts ought to be clearly articulated – brought forth – in corporate communication. This type of necessity for appearing sustainably conscious has - however – created a setting in which it can sometimes be extremely challenging – if not impossible – to make a distinction between company's words and actions, i.e. what a company tells about its sustainability-related efforts and what it actually does to adapt a higher sustainability level. (Epstein & Roy 2001; Gopalakrishnan. et al. 2012; Meehan & Bryde 2011; Berns et al. 2009)

As can be concluded based on this chapter, there is no individual distinct driver of sustainability in all. Rather, we find an interconnected and multi-levelled set of contributors to the popularization and promotion of sustainability issues in global scale. From corporate perspective, the discussed drivers constitute – in essence – a compound influence on the entire way operations ought to be managed and how businesses should see and conduct themselves as interdependent actors.

2.1.4 Sustainability in different industries

This segment provides an overall review of the level in which sustainability issues are acknowledged and/or addressed in varying industries in global scale. After discussion over industry-level sustainability in a general sense, a more specific look is taken at the topic industry of this thesis – the forest industry.

The extent to which a company adapts to sustainability varies greatly, depending on the industry in which the company operates. Despite their prevalence in public discourse, sustainability issues are not equally pressing across all types of industries. (e.g. Cowan et al. 2010; Jose & Lee 2007; Saltzmann et al. 2005).

The level of sustainability adaptation has been seen to be affected in part by the cultural surroundings in which a company operates. Differences can be detected between geographical areas (Linnenluecke & Griffiths 2010). Mikkilä & Toppinen (2008) note the value-bound nature of corporate responsibility, explaining in part why the role and responsibility level may be seen in different ways in varying surrounding with varying sets of values. The potential differences in corporate responsibility expectations play their own role in forming the extent to which a company embraces sustainability in its operating environment. However, despite the varying sets of values, the industry type has been seen more influential in determining how intensively a company addresses and relates to sustainability issues (Cowan et al. 2010; Jose & Lee 2007).

Special attention on sustainability appears to be particularly common among companies in natural resource-exhaustive industries and large multinational corporations (Henriques & Sadorsky 1996; Chang et al. 2013; Lozano 2012; Labuschagne et al. 2005).

In the 1990s when sustainability-related issues and reporting became increasingly common, companies in e.g. service-related industries were far less likely to have established sustainability plans or anything of sort, in comparison to companies whose actions were considered to have impact on the natural environment (Henriques & Sadorsky 1996).

Since then, sustainability efforts and related reporting have become a common part of companies' operating across industries (Jose & Lee 2007; Lozano 2013). This has coincided with social issues becoming increasingly prevalent – or finally acknowledged - (Dempsey et al. 2009) and the emphasis of the sustainable development idea is not solely on ecological issues as it for long tended to be (Sauvé et al. 2016; Lozano 2013; Murphy 2012; Dempsey et al. 2009; Cowan et al. 2010; Chang et al. 2013; Labuschagne et al. 2005). Nonetheless, regardless of the growing commonality of sustainability consciousness across industries, the natural resource-exhaustive industries still appear more consistent and stable in their overall sustainable performance (Chang et al. 2013).

When it comes to the public pressure regarding more sustainable ways of practice, the companies in industries which are particularly exhaustive of natural resources have traditionally attracted more attention, as the reality of the depleting resources, pollution and climate change reach higher levels of public awareness in the recent decades. (Henriques & Sadorsky 1996; Chang et al. 2013) This pressure can be interpreted to have been converted to high addressment of sustainability issues among natural resource exhaustive industries as companies within them tend to have further developed sustainability protocols, and they have been seen to be promoting sustainability consciousness (Chang et al. 2013; Jose & Lee 2007) – at least in their reporting.

However - as sustainability in its entirety is in question – it is notable that the focus of companies' sustainability efforts has traditionally been on the environmental dimension of sustainability (Cowan et al.2010; Chang et al.2013; Labuschagne et al.2005; Sauvé et al. 2016; Murphy 2012; Dempsey et al. 2009) Mäkelä (2017) points out that the traditional emphasis on environmental issues may stem from the practical reality that certain environmental indicators of sustainability are often more easily communicated to external shareholders and managers in quantified forms. Environmental impact is sometimes easier to be expressed in a simple numeric way that can then be compared with results of others. Such “hard data” is simply less ambiguous than many social sustainability indicators for instance. (Mäkelä 2017)

2.1.5 Sustainability in the forest industry

As a natural resource-exhaustive industry, the forest industry is not exempt from a multitude of challenges and pressure towards higher sustainability. Even though many companies in the industry operate in a global scale, certain inescapable level of locality is predominant to the nature of their business, due to their core resource – the forests. Albeit that forest-related industries have become more international during the recent decades, the industry in its entirety cannot be described truly globalized in the same sense as perhaps some other industries (Mikkilä & Toppinen 2008). Nevertheless, the challenges faced by companies in the forest industry are essentially similar – stemming from the same concerns – all around the world (Pätäri et al. 2016).

The global megatrends driving sustainability and influencing the existing sustainability practices of companies are shared by all companies, but implications for natural resource-exhaustive industries can be considered more practical, i.e. calling for more hands-on measures. The challenges apply to the companies in the forest industry as well. The megatrends – some of which have been referred to earlier – include an immense set of intricate environmental issues, such as resource depletion, loss of biodiversity and climate change, all of which create demand for higher material, resource and energy efficiency in a broad sense. (Pätäri et al. 2016; Hänninen et al. 2013) Global population growth and related demographic changes

– such as the people’s increasing centralization to urban areas – provide their own challenges to address. These issues – however – are not to be seen merely as negative, but rather as a source of new opportunities for forest industry. (Hänninen et al. 2013) For instance, population growth increases the demand for wood-based commodities, as more building materials and utilities are needed. On the other hand, population growth and urban centralization raise questions regarding land use. (Pätäri et al. 2016) Simply put, increasing amount of people requires space in increasing amounts, which challenges the forest industry the main resource of which is famously space-exhaustive. In addition, as the population increases, so does the energy demand, which brings the attention back to efficiency issues and calls for innovations in the field. Another challenge stems from the trend of production being shifted to areas where its costs are lower (Hänninen et al. 2013). As can be noted from the mentioned examples, many of the sustainability-related inducers of change stem from environmental issues – particularly in the case of such natural resource-exhaustive industry as the forest industry. However, there is steady trend towards greater application of the three-dimensionally considerate view of sustainability, particularly among large multinational corporations (Vidal & Kozak 2008). Another global megatrend forcing forest industry to reconsider its traditional practices is the rapid technological development. For example paper products – which are among the core articles for many forest-related companies – have been losing their desirability due to the rise of electronic/digital substitutive solutions. This has created a need for change and innovating among companies also in the forest industry. Opportunities exist, but the issue must be properly addressed and may call for drastic alterations in the supply chain or even in the business model itself. What hinders the intensity in which companies in the forest industry proactively seek solutions to this acute issue is the prevalent uncertainty regarding the environmental and social regulations by governments that are to be established in the future. (Hänninen et al. 2013) Basically, certain companies may hesitate to make drastic decisions with fundamental effects for their future operations, as they cannot be sure of what the rules affecting the industry’s operating will be in the future.

What makes decision making in global market environment even more challenging are the detected variances between the perceptions of different societies and

cultures regarding the responsibilities of forest industry companies (Mikkilä 2006). Local consumer values have their share of influence on what decision are made and how a company must behave – apart from the minimum legislative obligations – in order to appear as a positive agent in its surroundings, i.e. to attain a positive brand image among stakeholders. These altogether affect greatly how companies manage themselves. (Tuuva-Hongisto & Timonen 2011) For global operators with unified management, the lack of uniformed global policies and value differences between market areas altogether generates uncertainty and lack of clarity over how the corporation ought to operate in a consistent manner.

2.1.6 Forest industry in Finland

Forest constitutes approximately two thirds of Finland's land area (Korhonen 2001) and the forest industry has traditionally been very significant to the Finnish economy. In the recent decades the Finnish forest industry has experienced a prominent era of change in accordance with the aforementioned megatrends, sharing the challenge of the same global issues with their industry-specific implications. (Linnakangas 2010) The public view regarding forest industry's role and responsibilities has gradually changes over the past few decades in Finland. The sheer focus used to be on its economic significance to the state of Finland, particularly after the war years (Mikkilä 2006). In the name of economic growth, forest companies had a lot of liberties in order to operate as productively as possible. Such conduct was encouraged by the government as well. Attitudes have changed since then, and forest companies are increasingly expected to have considerations over the social and environmental implications of their actions as well (Mikkilä 2006; Mäkelä 2017). Starting from 1970s, environmental legislation in Finland began to gradually tighten (Pakarinen et al. 2010).

Even though Finnish economy is based on highly material and energy-intensive industrial activities, Finland has also attained a status as sort of forerunner in issues related to environmental awareness (Mickwitz et al. 2011; Mikkilä et al. 2005). This has been reflected in the forest industry as well, as companies representing the Finnish forest industry were among the early adopters of environmental reporting practices, which later gradually developed to include more social sustainability-

related issues alongside (Mäkelä 2017). Diaz-Balteiro et al. (2011) noted in their comparison of European countries the superior level of green practices among the wood-based industries of Finland. The Finnish paper industry – a part of forest industry – was considered the most sustainable one among European countries in the same study. Although such studies are hardly definitive due to the immense complexity of measuring sustainability in its entirety, it goes to show the long tradition of sustainability consciousness – in varying extents – within the Finnish forest industry.

2.2 Managerial cognition and dominant logic

This chapter discusses the concepts of managerial cognition and dominant logic. Neither of these two concepts are easily outlined nor can they be strictly described with distinct definitions – as will be demonstrated in the following chapter. These concepts are not distinctively separate from each other either, but rather fundamentally interlinked. Dominant logic as a concept is part of the research tradition on (managerial) cognition.

2.2.1 Cognition and managerial cognition

The concept of cognition in organizational setting has been attracting attention as a field of study for several decades (Levy et al. 2006), gaining even more popularity ever since the 1980s (Walsh 1995). In the 1970s, there was a distinct trend in scholarly circles to explain the behaviours of companies being primarily determined by population ecology, resource dependencies and/or transaction cost economics. These predominant views gave marginal credit and weight to the influence which a single manager or managers can have on the way a company behaves and operates (Walsh 1995). Since then, managers as significant influencers have gained increasing interest, and what has been on focus is not merely what type of operational moves managers do, but from where do the managerial decisions stem. One determinant of human behaviour has been broadly conceptualized as cognition. In this chapter, the concept of cognition is discussed in relation to managerial behaviour - referred to as managerial cognition.

Cognition and managerial cognition have been defined in various ways, with slight tone differences depending on the context in which the concepts were discussed by a scholar (Kaplan 2011; Walsh 1995; Madhavaram et al. 2011). Tikkanen et al. (2005) see cognitions as “conceptual and operational representations that humans develop while interacting with complex systems” (see also, Walsh 1995). Goodhew (1998) also notes the process-like nature of cognition in describing it as a “process by which the mind acquires, processes, organises, and uses knowledge and experience”. The type of definitional broadness – or vagueness – characterised in these examples is congruent within the cognition literature. Buyl et al. (2011) give a slightly more detailed definition of managerial cognition stating that it refers to “cognitive structures such as the top management beliefs about environment and strategy and cognitive processes such as scanning, sensemaking and interpretation”. Even though the definitional outlines of the concept appear rather blurry and flexible, managerial cognition in general seems to refer to the holistic way of how managers perceive, experience and understand company-related issues which require action (Madhavaram et al. 2011).

As mentioned above, managerial cognition has been approached from different angles and discussed using varying terms and definitions (Kaplan 2011; Walsh 1995). Barr et al. (1992) talk about managers having mental models which direct – or practically dictate – their perception, thought processes and the consequent actions. The mental models are generated by the status quo and how managers have experienced their surroundings, along with what sort of actions are preferable in the surrounding circumstances. These mental models help managers to direct their attention on the essential issues, which maintains managers’ attention selective (Barr et al. 1992; Shang et al. 2010; Hahn et al. 2014). Nadkarni & Barr (2008) refer to such selectivity by managers as attention focus. As the attention is focused, it leads to a situation in which firms/managers do not truly process all the available information in their decision making and operate based on biased and limited estimates of their competitive environment (Johnson & Hoopes 2003).

On the one hand, the discussed selectivity – due to a certain mental model – helps managers to cope with the immense amount of information and external stimuli by keeping them focused on the factors which are vital to the firm in status quo. But on the other hand, such selectivity can also limit managers' attention from seeing things which are not compatible with their mental models. Potentially notable changes – calling to be acted upon – in a firm's environment may be overlooked by a manager as a result of a strong mental model that is fixated on other types of matters, i.e. the occurred changes are not central to the existing models. (Barr et al. 1992; Johnson & Hoopes 2003; Manral 2011) Johnson & Hoopes (2003) refer to this type attention focus which has potentially negative – or at least hindering – influence as *attention trap*.

Literature on strategic and organizational change around the subject of managerial cognition indicates that mental models are not changed by minor events. In fact, managers tend to “make” changes to their mental models only as a result of significant changes in their firm's environment (Barr 1998; Kaplan 2011). In other words – as Barr et al. (1992) put it – “changes in action do not occur until some level of stress or pressure to change exceeds the level of inertia or pressure for maintaining the status quo”. Even though cognition is constantly evolving in a way, the change in cognition appears very slowly (Kaplan 2011; Maijanen 2015).

Much of the scholarly work on why managers assume cognition revolves around the abundance of information involved in managerial decision making and the humane limits of managers' capacity to process all this information (Walsh 1995; Johnson & Hoopes 2003). According to Manral (2011), when managers deal with complex problems, they develop simplified mental models in addressing them. Similarly Hahn et al. (2014) theorize that managers interpret and assess (informational) complexity through cognitive frames in order to cope. They form cognitive structures based on what things are important in their surroundings and develop certain managerial mind-set through which they evaluate everything. This mind-set is occasionally referred to as manager's cognitive orientation which then influences a wide range of organizational phenomena. (Manral 2011) Other terms sometimes used to describe essentially same phenomena are for instance mental maps (e.g. Manral

2011), cognitive frames (e.g. Hahn et al. 2014), schemes (e.g. Johnson & Hoopes 2003) and knowledge structures (e.g. Walsh 1995; Maijanen 2015). Scholarly terminology around the subject is notably vast, and already in mid-1990s Walsh (1995) was able to collect a long list of terms referring to the same issues in his review. These conceptual framings can be considered to fall under the general category of managerial cognition.

It is important to note that cognition – or its formation – does not seem to be something that can be precisely foretold in the sense that managers' decisions could be perfectly predicted based on the similarities in the surroundings of companies. In fact, companies can interpret external signal in their surrounding in very different ways. In other words, similar companies observing and experiencing the same changes do not necessarily see them in the same way. For instance, certain changes might be seen as a notable threat by one manager, whereas another may deem them utterly insignificant. (Kaplan 2011; Marcel et al. 2010) Differences are due to the fact that regardless of similarities and common mind-sets or shared cognition frames, cognition is ultimately constructed upon – and affected by – manager's subjective cognitive experience and interpretation (Marcel et al. 2010).

However, a portion of research on managerial cognition and action suggests similarities between companies in similar surroundings – with similar stimuli – and their behaviour. Companies which are close to each other – within industries with common standards of practice or in a cluster – are believed to observe each other's behaviour and consequently develop similar mental models which are then reflected in similar interpretations of surrounding events. Companies' estimates thus gradually become similar, producing partially similar strategic actions and performance among the nearby companies. (Johnson & Hoopes 2003; Sutchliffe & Huber 1998)

Johnson & Hoopes (2003) go as far to conclude that managerial cognition will gradually have its effect on industry structure with certain limitations. Managerial cognition does not dictate on its own, no matter how strong the prevailing mental models are. Indeed, shared managerial cognition among nearby companies does

not as a whole change rapidly as cognition never does (Kaplan 2011). However, the economic situation of the industry has been seen to have the power to cause relatively swift changes in the dominant cognition among managers and firms. Nonetheless, it is to be noted that the results regarding managerial cognition's generation and independent influence on industries vary in the existing research done on the topic. (Johnson & Hoopes 2003)

2.2.2 Dominant logic

Dominant logic is not a separate concept from cognition or managerial cognition, but rather intertwined with these. That is to say that any talk of dominant logic is essentially talk of organizational cognition in some level and with a certain perspective depending on the context. Similarly to research on cognition itself, the work on dominant logic is not really bound as its own distinct field of research, but rather diffuses throughout various management-related fields of study (Kaplan 2011). Dominant logic as a concept carries no single unified definition, much like managerial cognition. This segment takes a general overview of dominant logic as a concept, providing basic understanding of what is meant by it and how it affects. Discussing dominant logic is – essentially – approaching cognition from a certain perspective. Dominant logic is part of the managerial cognition research tradition. (Maijanen 2015)

In a rather broadly defined form, dominant logic can be said to describe “the manner in which a firm or society organizes much of its activity in order to be successful” (Watson et al. 2012). The idea of dominant logic is not thereby restricted in its use to economics. For a company, dominant logic can be seen as the way it organizes itself and addresses issues to ensure its survival and success (Vargo & Lusch 2004). For the purposes of this research, the concept is discussed primarily in organizational context. The following definition of dominant logic in this setting by Bettis et al. (2003) provides a basis:

“Dominant logic is a conceptual framework for thinking about the process and results of cognitive simplification in top management teams. It develops and evolves due to

the characteristics of the firm's industry and strategy. With experience and success the dominant logic condenses into a variety of visible and invisible organizational features where it takes on a highly durable and self-reinforcing nature.”

As can be seen in this definition, many of the same characteristics apply to the general concept of dominant logic as do for managerial cognition in general. Dominant logic stems from cognition, being influenced by experiences and cognitive interpretations, along with being something that is in constant evolution. Dominant logic is something that influences company's decision-making and actions, providing a simplified frame for processing information and acting upon it. Dominant logic in a company functions – in a way – as a simplified model of complex reality. (Bettis et al. 2003; Maijanen 2015; Watson et al. 2012)

In its simplest form, dominant logic could be described as a group-level mental/cognitive map amongst a top management team (Bettis et al. 2003; Prahalad & Bettis 1986). Even if there are minor differences in the mental models/cognitive maps of members (managers) in team (top management), the main features of these models/maps conform – establishing dominant logic (Bettis et al. 2003).

According to Bettis et al. (2003), dominant logic “develops and evolves due to the characteristics of the industry and the strategy (or business model) the firm uses to compete in this industry.” Nearby companies can conform because “experience and success in the presence of reasonable environmental stability breed shared patterns of thinking about key strategic and managerial issues” (Bettis et al. 2003). This means that behaviour which leads to survival and success is “imitated”, until it stops being beneficial. The way through which companies attempt to succeed at the time is part of the dominant logic frame.

Like managerial cognition in general, the dominant logic can either enhance or hinder success, of both of which there are examples (Maijanen 2015). Certain dominant logic is beneficial and “functions” well in a stable environment, but a challenge occurs when drastic change is required (Prahalad 2004). Dominant logic changes when there is a coherent mismatch in the mental models/schemes of a

company and the state of reality in its surroundings. (Barr 1998; Kaplan 2011; Barr et al. 1992; Maijanen 2015) The dominant logic gradually adapts to schemes represented in and assumed based on the prevailing state of its environment, emerging in a modified form.

Dominant logic can be beneficial to a company as it facilitates decision making processes (Maijanen 2015), but it has also been seen – as managerial cognition in general – as a filter in a negative way (Prahalad 2004). Prahalad (2004) encapsulates the dual nature of dominant logic describing the way it influences companies' behaviour by comparing it to blinders on a horse. Prahalad (2004) explains that much like blinders on a horse, dominant logic “allows organisations to perform well at their current task in the short term” and how “this logic keeps us focused on the road ahead, but also limits our peripheral vision.” The limits of dominant logic must be acknowledged so that the company does not become blind to new opportunities (Prahalad 2004).

As described, dominant logic has a major influence on the way a company's operates itself and consequently on what kind of effect the company imposes on everything in its environment. Needless to say, dominant logic affects many levels and changes in dominant logic – therefore – are extremely notable with their long-lasting and far-reaching influence. With this in mind, it is justified to say that managerial cognition and dominant logic play a core role in the way a company adapts, promotes and executes sustainability (e.g. Hahn et al. 2014). Change in corporate thinking towards higher sustainability consciousness essentially represents change in companies' decision makers' thinking. This change in the way they think indicates change in cognitive models of managers, which is then actualized in the establishment of sustainability consciousness as a part dominant logic. This also highlights the significance of managers in the process of attaining greater level of sustainability in the universal level. (e.g. Hahn et al.2014; Maijanen 2015)

3 RESEARCH METHODOLOGY

This chapter presents the methodology applied in this research. The selection and collection of the used data are explained, along with justifications for these decisions. After this, the chosen method of analysis and the process of analysis are described. Contemplation over the reliability and validity of the chosen data and analytical methods is included in the end of this chapter.

3.1 Research context and case description

This thesis studies the evolution of sustainability in the annual reporting of three major Finnish companies in the forest industry from the year 2000 to 2014. The changes in the way these companies communicate sustainability-related issues in their reporting is later discussed in relation to the theoretical background of cognition and dominant logic.

As described in the literature review of this thesis, sustainability as a phenomenon has truly popularized in the recent decades and increasing attention is paid on sustainability of companies. This attention and popularization is bound to be detectable in the way companies communicate to the public. In this study, annual reports are considered as representations of that communication. The reports provided to the public are considered to reflect managerial cognition and companies' dominant logics.

The research in question is essentially a multiple case study. Case study is a form of strategy in qualitative research in which a program, an event, an activity or a process of one or more individuals is explored in depth by a researcher. Such studies have a certain frame of time in which they occur and are observed. (Creswell 2003)

The case companies were selected due to the nature of their industry, size and history. As indicated by prior research on the topic, companies in natural resource exhaustive industries often have particular attention paid on their sustainability

issues, and are consequently more likely to express sustainability concerns in their reporting as well. The forest industry traditionally has notable environmental impacts, making it a good source for a sample. The three selected companies are among major forest companies in Finland. Smaller companies in the industry tend not to report particularly on sustainability or have not done so for long enough, so that valid data could be sufficiently collected. (Mäkelä 2017) The selected companies operate in international level and have a relatively long tradition of including sustainability-related content in their public annual reporting. As a result, the collected data from the case companies can be considered sufficiently extensive for the purpose of this study in terms of the amount of content and timespan.

The selected case companies are UPM-Kymmene, Metsä Board and Stora Enso. These are the three largest companies in the Finnish forest industry, which all operate in several countries. UPM-Kymmene is henceforth referred to as UPM. The company referred to as Metsä in this thesis changed its official name from Metsä-Serla to M-real in 2001. Since 2012, the company has been known as Metsä Board. Stora Enso was born in 1998 in the merger of the Swedish STORA and the Finnish Enso companies.

3.2 Data collection and validity

This study relies on secondary data sources. The collected data consists of annual reports of the case companies, providing a mixture of qualitative and quantitative data. This study focuses on the qualitative data. Flick (2014) describes qualitative research being “interested in analysing the subjective meaning or the social production of issues, events, or practices by collecting non-standardized data and analysing texts and images rather than numbers and statistics”. This view applies to the data used in this research as it acknowledges the subjective nature of annual reports and is not attempting to evaluate sustainability based on semi-standardized sustainability indicators like several previous studies on this particular industry have (e.g. Toppinen & Korhonen-Kurki 2013; Mäkelä 2017).

The annual reports were collected from online archives provided by the case companies themselves. As these reports were available to be accessed freely, the data can be considered to be directed to the general public, therefore expressing issues each company wishes to communicate to stakeholders without restrictions. The data is not confidential in nature, for internal use only or directed only to shareholders for instance.

Hendry (2000) notes that “cognition only becomes empirically accessible when it is communicated”. The annual reports represent this communication and are therefore considered a suitable source of data when studying cognition and dominant logic. Annual reports can be considered to manifest dominant logic as they reflect managers’ perceptions and strategic focuses of companies (Maijanen 2015). Companies also tend to express such issues in their annual reports which they consider important and of which they wish to communicate to the public (Guthrie & Abeysekera 2006). Issues deemed important for holistically successful operating are a fundamental part of companies’ dominant logics, making annual reports a valid sources of data to be studied for the purpose of this thesis.

3.3 Data analysis methods

The method chosen for the analysis of the secondary qualitative data in question is thematic content analysis, which is form of content analysis with a focus on underlying themes. Content analysis is a suitable analysis method for case studies (Patton 2002, 453). It can be defined as “a flexible, widely applicable tool for measuring the semantic content of a communication” (Cooper & Schindler 2014, 694). However, there is a great variety of terms and definitions to describe nuanced processes of qualitative analysis (Patton 2002, 453) used in this particular study might be similar to thematic analysis. One form of content analysis seeks to identify core meanings within qualitative data and these meanings are often called themes (Patton 2002, 453). This is the type of analysis in question in this thesis. To emphasize the theme-seeking – rather than e.g. word count focused – purpose of this study, the used method is here called thematic content analysis.

Commonly used tools in content analysis are for example associations, categorizations, counts and interpretations (Cooper & Schindler 2014). Categorization is used in this particular research because of the focus on themes, which are represented in more categorical forms (Patton 2002, 453). Through content analysis, one may detect patterns, which are more descriptive in nature. These descriptive patterns constitute larger underlying themes (Patton 2002, 453).

In order to be able to analyse the data properly, it has to be processed into a systematically manageable form. This is achieved through the method of coding, which here functions as a mean for organizing the original data and categorizing the content. In coding, content is systematically processed and grouped into categories by assigning numbers or other *symbols* to *pieces of data*. (Cooper & Schindler 2014, 379) Even though categorization of the data through coding diminishes the detail level of the data to certain extent, such minor simplification through categorization is necessary for the analysis to be efficient (Cooper & Schindler 2014, 380).

In this thesis, the content to be analysed consists of annual reports of case companies. In this particular analysis, the assigned *symbols* are brief titles describing the content on an expression. The *pieces of data* in this case are the expressions: singular phrases, groups of phrases, or paragraphs (Guthrie & Abeysekera 2006) in the reports that express something related to sustainability. Each sustainability expression is assigned a code with a descriptive name. Each code belongs to at least one of the three code families. The three code families are based on the three-dimensional view of sustainability – being economic, environmental and social. Any overlap – i.e. a code belonging to more than one code family – is taken into account in later analysis by affirming the actual content of the codes with dimensional overlap. For example, if a *piece of data* talks about plans of reducing emission levels, it is considered a sustainability expression. Such an expression would be assigned a code titled e.g. “emission reduction” belonging to the code family titled “environmental”. This procedure allows the thematic grouping of expressions in each category (Tuomi & Sarajärvi 2002, 112) to be done later in the analysis. The coding is done individually for each company’s reports from same selected years. After this, the codes for each company in each year are further

examined to distinguish common themes for each year's report. The results are converted into graphic timelines for each company and the timelines are then reanalysed in comparison with each other. Comparison of the timelines will show (a) how the content of public sustainability communication has evolved over the years in each company, and (b) whether there are similarities in this evolution within the industry.

Atlas.ti data analysis software is used for the analytical process described above.

4 FINDINGS

This chapter presents the findings made in the empirical analysis part of this thesis. The aim is to describe the main findings of the coding process done on the annual reports of the case companies. These findings are later reflected with the theoretical framework of this study in the discussion section.

Under analysis were case companies' annual reports containing references to sustainability issues. Whilst reading these reports, the sustainability issues were coded in context with descriptive code names, so that the relative frequencies of similar codes could be later examined in order to determine what kinds of issues were most prevalent in each report. The coding was done *in context* and the code frequencies are not definitive representations of the content in each analysed report. That is to say that not every single phrase was assigned a code, so that the exact amounts of phrases revolving around a certain theme could be counted. Analysing such frequencies would not only be irrelevant for the purpose of this study, but would potentially provide distorted information in the light of later analysis. Simple frequency rates of phrases relating to certain themes would not necessarily express the whole truth about the prevalence of an issue. Coding in context provides a more reliable representation of the evolving themes in the reports and is well suited for this qualitative content analysis.

However, the frequency rates of varying codes were not utterly dismissed from the analysis. In fact, they were used as approximate indicators of prevalence of issues, i.e. they were used to identify underlying themes. Even though not every single phrase was separately coded or phrase frequencies used as identifiers of themes, the context codings and their frequencies are considered to give an approximate idea of which were the most common themes each year. For example, if the code analysis shows that things related to a certain issue were mentioned in 20 different contexts throughout a report, whereas another issue was only referred in less than 5 contexts, it can be concluded that the formerly mentioned is more common and appears to be a theme of sort. However, minor differences in the context frequency numbers are irrelevant in the analysis. For instance, if the frequency number of a

certain issue is only a few digits lower than another, this does indicate that the one with a slightly higher frequency number is somehow notably more common in a report. The context frequency number are used to grasp a general understanding regarding underlying themes, but are not quantitatively analysed as exact indicators.

In order to see the evolution of sustainability issues in annual reporting in a larger scale, reports within a 15-year timespan were analysed. Due to the magnitude of data amount in question, reporting from every second year was examined. In the course of 15 years, examination of every second year's reporting can be considered to provide a fair representation of reporting themes. Changes in reporting in two consecutive years are often minor and examining every second year can thus be considered perfectly sufficient and meaningful for the purpose of this study. The analysed sustainability-related reports are listed in Table 1.

The empirical analysis focused on the reporting revolving around sustainability issues. The reports were analysed with the scope of the three-dimensional view of sustainability. Attention was also paid on notions of drivers behind sustainability efforts the companies declared in each report. References to potential driving forces in the reports are later reflected with the analysis of sustainability themes as well.

	UPM	Metsä	Stora Enso
2000	Annual report	Annual report	Environmental Report
2002	Annual report	Annual report	Environmental Resources Report; Performance & Responsibility
2004	Corporate Responsibility	Corporate Responsibility	Sustainability
2006	Environmental & Corporate Social Responsibility; Annual report	Annual report	Sustainability
2008	Annual report	Annual report	Sustainability Performance

2010	Annual report	Corporate Responsibility; Sustainability	Global Responsibility Report
2012	Annual report	Sustainability	Global Responsibility Report
2014	Annual report	Sustainability	Global Responsibility Report

Table 1. The analysed sustainability-related reports

This chapter details the results of the coding. Contents of the selected reports from each examined year for each of the three case companies are summarized one by one, in order to express the empirical findings in a more nuanced fashion as the findings lay the foundation for wider discussion and identification of industry-level themes.

4.1 Reporting of UPM

In the UPM's annual report for the year 2000, sustainability issues revolved primarily around economic and environmental concerns, whereas coverage of social issues appeared to be in its infancy. Economic sustainability manifested in expressions regarding competitiveness in the market and enhancing economic performance. A common issue was the improvement of material and resource efficiency, which was mostly viewed from the economic perspective. Notifying the environmental benefits of material and resource efficiency appeared somewhat secondary to the economic implications. Environmental concerns revolved primarily around pollution, emissions, and environmental protection along with intensifying utilization of renewable energy sources and raw materials, in addition to the significance of biofuels for the future. Expressions related to social issues were limited to rather general ethics remarks and human resource management issues along with employee training and incentivisation schemes. Remarks about the company's compliance with mostly environmental requirements and growing trend of related certifications occurred often in the report, which implies that at the time such drivers contributed to the sustainability adaptation at UPM to certain extent.

From 2002 to 2006, UPM published reports addressing environmental and social sustainability issues more elaborately. In the 2002 Corporate Responsibility report, social issues can not only be seen to have emerged, but are addressed extensively compared to the past. Internal social issues were well represented, including discussion over employee communication and promotion of their safety health and well-being. External social issues played a notable role this year's reporting. The importance of stakeholder communication, engagement and feedback were introduced to sustainability speech, in addition to general acting in and for the benefit of communities among which UPM operates. Promotion and presentation of UPM's own cultural heritage and the company's involvement in cultural activities was among notable features in the report as well. Environmental sustainability was expressed in elaborate discussion over recycling and emissions in particular. Other prevalent issues were increasing attempt towards sustainability throughout supply chain and products' life cycle, along with concerns regarding forest conservation and forest sustainability-related certification promotion. Other common issues revolved around biodiversity, biofuel development, responsible sourcing and assurance of proper/certified origin of wood, along with waste management and water treatment. In the year 2002, increasing attention was also given to highlighting transparency regarding company's sustainability efforts, relevant reporting and operating in general. The economic sustainability was characterized by the company's rather steady phase in terms of growth. Forest-related concerns and their economic effects along with profitability issues were common subject in the economic sustainability context.

The 2004 Corporate Responsibility report of UPM was in many regards similar to the 2002 report. Profitability and competitiveness were commonly mentioned economic sustainability issues in particular. Other notable features revolved around cost efficiency, ensuring and enhancing market position, and economic growth along with general forest-related concerns and their economic effects. Environmental and social issues were both well represented. Notable environmental sustainability issues were e.g. ensuring proper and legal origin of wood, water use due to the prevailing scarcity, and endeavours for emission and discharge reduction.

In addition, issues regarding biodiversity, development and significance of biofuels, climate concerns and need for environmental certifications, renewable materials and energy solutions, recycling as well as forest conservation and environmental research along with the notion of the importance of sustainability efforts throughout product life cycle were elaborately detailed in the report. Regarding social issues, stakeholder engagement and its significance for ensuring sustainability in the future appeared commonly in varying contexts. Another notion which was frequently expressed was that the company needs and attempts to be increasingly transparent what comes to its actions and sustainability efforts. Such transparency would be achieved through open reporting and extensive use of sustainability indicators in it. UPM's work in schools and with students was also detailed, along with issues regarding employees' occupational health and safety. Another common social issues was the importance of being involved in the communities on which UPM has an impact, and attempting to create value to those communities through its operations whilst promoting sustainability as well.

In 2006, UPM's economic sustainability issues revolved around competitiveness and enhancement of economic performance. Particularly highlighted concept was profitability and its advancement by establishing internal profitability programmes. The environmental and social content did not vary greatly from the previous reports. However, there appeared to be a slightly heavier emphasis on emission and discharge reduction efforts and related development plans. Significance of resource and material efficiency, as well as biofuels and use of biomass were commonly expressed as well. In addition, sustainable sourcing issues were particularly elaborately expressed compared to previous reports. This was accompanied by larger concerns over attaining sustainability throughout company's entire supply chain and striving towards holistic life cycle sustainability. The social aspects of sustainable supply chain and sourcing were also expressed by highlighting the importance of selecting suitable suppliers and obligating them to comply with sustainability standards as well. Other common social sustainability remarks regarded safety of employees and people in UPM's operating environments, along with the importance of engagement of these stakeholders. Schemes for employee

reallocation within the company to a new suitable position instead of firing were also brought forth.

The annual report of 2008 was characterized by the layoffs of employees, which can be seen reflected particularly in regards to the economic and social dimensions of sustainability. Economic remarks focused on the need for remaining competitive and enhancing competitiveness in all factors. Remarks on the company's strong market position and its preservation were frequent. Enhancement of cost efficiency and profitability were also common issues. In addition, UPM's desire and efforts towards achieving a state of self-sufficiency became a common notion in varying context, potentially also as a result of the economic challenges in the operating environment. The employee layoffs could be seen reflected in the expressed social concerns as well as they notably revolved around employee wellbeing, communication with them and their engagement. Employee reallocation schemes continued being referred similarly to the analysed 2006 report. Environmental issues remained in a major role in 2008 report as well, revolving around life cycle sustainability, significance of biofuels, renewable materials and resources, recycling, sustainable sourcing, highlighting company's environmental certifications and acknowledgement of emission reduction requirements and carbon dioxide neutrality goals.

In the 2010 annual report economic remarks were focused on growth and cost leadership. These expressions are in line with the cost efficiency aspirations of the 2008 report. Secondary economic references in the year 2010 were mostly related to profitability enhancement and general competitiveness. Renewable materials and resources, along with highlighting company's recycling maximization efforts continued to be in notable role in the environmental reporting. Secondary to these issues, climate concerns and related emission reduction efforts, as well as promotion of biofuels and biodiversity, and usage of biomass were among the commonly expressed environmental sustainability subjects. Stakeholder engagement – internal and external – was in a particularly notable role among social issues in the report. Occupational health and safety, along with the importance of active involvement in community level were also elaborated in varying contexts.

The emphases regarding economic and environmental sustainability expressions were virtually same in the UPM's annual report of 2012 as in that of 2010. Environmental issues expressed were extensive and elaborate as in other reports, but social issues varied to an extent from the previous having certain additions. Synergies and co-operation with external companies, institutions and organization in order to achieve higher and more comprehensive sustainability was in a particularly notable role compared to previous reports. There also appeared to be a wish for more active promotion of sustainability and social responsibility in particular among stakeholders in company's operating environment and business co-operators, such as suppliers of raw materials. However, the need for such promotive activities appeared to more acknowledged and articulated, rather than determinedly executed.

In accordance with the previous years, economic sustainability expressions in the report of 2014 revolved around profitability, growth, and cost leadership. Environmental concerns and related expression were similar as well, with the addition of origin of wood and water issues becoming contextually more prevalent. Social notions focused on stakeholder engagement, employee wellbeing and development, as well as transparency of reporting and communication. The need for the development of social sustainability monitoring and measuring was fairly commonly referred as well, in addition to related activities and communication within the communities affected by UPM's operations.

Summarization of the common themes in UPM's reporting is presented in Table 2.

Dimension	2000	2002	2004	2006	2008	2010	2012	2014
Environmental	Emission & pollution issues; Environmental protection; Renewable energy sources & raw materials; Biofuel importance; Legal compliance; Certifications	Recycling; Emission issues; Supply chain sustainability; Forest conservation; Forest certification promotion; Biodiversity; Biofuel development; Responsible sourcing; Origin of wood; Waste management; Water treatment; Transparency	Origin of wood; Water use; Climate concerns (Emission reduction); Biodiversity; Biofuels; Certification; Recycled fibre; Life cycle sustainability; Energy & material recovery; Renewable materials & energy; Sustainable sourcing; Forest conservation & environmental research	Emissions & impact reduction; Sustainable sourcing; Biofuels & biomass; Life cycle sustainability & sustainable supply chain; Resource & material efficiency	Life cycle sustainability; Biofuels; Renewable materials & resources; Biomass; Energy development; Recycling; Sustainable sourcing; Certifications; Emissions & CO2 neutrality goals	Recycling; Renewable materials & resources; Climate issues: emission & impact reduction (CO2); Biofuels; Biomass; Biodiversity	Renewable materials & resources; Resource & material efficiency; Recycling; Impact reduction; Biofuels	Renewable materials & resources; Resource & material efficiency; Recycling; Climate concerns; Life cycle sustainability; Origin of wood; Water use and treatment
Social	Business ethics; Employee training and incentives	Employee communication, health, safety & wellbeing; Stakeholder communication, engagement & feedback; Value creation for communities;	Stakeholder engagement; Transparency; School outreach; Job health & safety; Value creation for communities; Forest education; External & internal sustainability promotion;	Human safety; Stakeholder engagement; Supply chain responsibility HR (Employee reallocation in case of layoffs); Employee wellbeing & development;	Employee wellbeing, engagement & communication; Customer satisfaction; Leadership development; Internal & external stakeholder training	Employee engagement; Acting in community; Job health & safety; Stakeholder engagement	Synergies & cooperation; Stakeholder engagement; Employee engagement, wellbeing & development; Human safety; Transparency; Suitable suppliers;	Stakeholder engagement; Employee wellbeing, engagement & learning; Transparency; Community engagement & value creation; Suitable suppliers;

Table 2. Themes in sustainability-related reporting of UPM, 1/2

Dimension	2000	2002	2004	2006	2008	2010	2012	2014
Social (continued)		Cultural heritage & activities; Transparency	Leadership development	Community cooperation			Social awareness promotion & education; Stakeholder dialogue	Monitoring & measuring of social sustainability; Stakeholder communication, feedback & involvement; Business ethics
Economic	Competitiveness; General enhancement of economic performance; Material & resource efficiency	Profitability; Steady growth	Profitability; Competitiveness; Cost efficiency; Market position; Growth	Profitability; Profitability programme; Competitiveness	Competitiveness; Market position; Cost efficiency; Profitability programme; Self-sufficiency efforts	Growth; Cost leadership; Profitability; Competitiveness	Growth; Profitability; Market position; Cost issues	Profitability; Growth; Cost leadership

Table 2. Themes in sustainability-related reporting of UPM, 2/2

4.2 Reporting of Metsä

In the annual report of Metsä of 2000, economic sustainability issues were dominantly related to profitability and general enhancement aspirations of economic performance, in addition to remarks on the company's market position and its betterment. Secondary to these were expressions relating to efficiency improvements and developing towards increasingly customer-oriented business. Such highlighting of customer orientation for competitive benefit can also be considered to fall under the social categorization of sustainability remarks. In all, customer-related issues were prevalent in the report, having their basis on the importance of communication with customer and their satisfaction. Internal stakeholder issues also appeared to play a notable role in the company's social sustainability perception. Employee and leadership development through internal competence mapping and learning schemes were well represented. Prevalent themes in environmental sustainability were the ecological benefits of efficiency improvements, meaning e.g. more efficient and thus lessening use of natural resources through increased material recovery and cleaner production methods. In relation to such aspirations, expressions relating to the promotion of sustainable forestry as an industrial concept were notable in the report.

In the year 2002, Metsä's economic sustainability remarks revolved around similar issues as in the previous analysed year. The emphasis appeared to be on efficiency improvements regarding economic performance, which would then enhance company's profitability as frequently referred. Customer orientation was still a prevalent social issue, in addition to being a means for economic sustainability. The importance of communication with employees appeared rather prevalent as well, although social sustainability issues were not particularly elaborately detailed in the report. The efficiency improvement focus was expressed in contexts with environmental implications as well. Besides material and resource efficiency enhancement, waste management and water use issues were brought forth. In addition, the content of the report expressed thoughts on the importance of

environmental certifications, and the significance of the development, promotion and conformity of such certifications.

In the analysed Corporate Responsibility report of 2004, environmental sustainability issues were well represented. Emissions and their reduction needs and endeavours were in a dominant role. Development and acquisition of environmental certifications continued to be referred frequently in the same contexts with emission and discharge reduction. Another commonly occurred issue was the origin of wood and the need for transparent way of assuring that the wood material the company acquires comes from appropriate sources – sustainably maintained forests – and through responsibly managed supply chain. Economic sustainability revolved around the same issues as in previous analysed reports, with the addition of heightened attention on the economic side of energy issues in general. General human resource subjects dominated the social dimension of the 2004 Corporate Responsibility report, revolving primarily around the importance of occupational health and safety, along with employee learning and development. In addition, customer communication and satisfaction continued being a common theme. The report also accentuated the importance of communication with the communities affected by the company's actions in its operating environments. The significance of maintaining open and healthy relations with these communities began to be increasingly acknowledged and addressed in the reporting. In all, internal and external stakeholder relations with their significances and challenges were addressed in a rather detailed fashion.

In the year 2006 Metsä's Corporate Responsibility section was a part the annual report, but the sustainability-related notions remained similar to the 2004's report. Economic performance and its enhancement in a rather general level was in a major role in the 2006 report. Cost reduction along with efficiency improvement attempts and intents were expressed in various contexts, which reflects the economic challenges experienced by other companies at the time as well. Environmental concerns continued to revolve around the need for material, resource and energy efficiency development, stemming seemingly from emission reduction plans, but having economic sustainability connotations also. The social sustainability

references were not particularly elaborate, especially in comparison to the previous Corporate Responsibility report of 2004. However, the social issues that were mentioned focused predominantly on customer orientation and satisfaction in accordance with the earlier reports in the beginning of the millennium. In a general level, the social remarks can be said to be characterized by the layoffs of employees, much like the aforementioned 2008 report of UPM. The layoffs are not exempted from Metsä's 2006 report but are indeed addressed, along with several scattered references to employees, their development and incentives, along with communication with them in various contexts.

The Metsä annual report of 2008 discussed elaborately on environmental sustainability issues. Sustainable forestry as a concept for the way of doing business in the industry occurred in various contexts. In addition, many similar themes from previous reports were present but appeared in a larger variation of contexts. Ensuring responsible and proper origin of wood materials, along with reduction of emissions and environmental impact were among the frequently referred issues. The company's improvements on its environmental reporting practices and the development of them was also discussed on various occasions. Social sustainability expressions continued to be characterized by the company's employee layoffs to a certain extent. General human resource management issues were prevalent and occupational health matters remained common as in the previous reports, much like the keen interest towards greater customer orientation. Particular addition to the social sustainability speech of the company were the more frequent references to more general social ethics matters such as human and labour rights, and anti-corruption stance. Economic sustainability remarks revolved primarily around describing the company's market position, its state and enhancement.

In the year 2010, the company published a Corporate Responsibility report and a Sustainability report which were essentially identical in content. These reports were compact debriefings which can be seen to express the major alignments in the company's sustainability outlook. The focal points for holistic sustainability appeared to be similar to what the previous reports had communicated. The major economic sustainability concern appeared to be maintaining and enhancing general competitiveness through e.g. energy efficiency and consistent performance

development in all areas. Efficiency improvements regarding material and resource use in particular appeared to continue to be what the company considers as the foundation for environmentally sustainable operating. Social remarks were about the wellbeing of employees, communication with them, occupational health and encouragement. Competence mapping among employees and their training appeared to be considered important for a holistically sustainable company and success.

The thematic emphases in the report of 2012 and 2014 were essentially similar to the 2010's reporting. General efficiency in all levels appeared to be the main component in assuring economic sustainability. Environmental expression revolved around material and resource efficiency, origin of wood from sustainably considerate sources and suppliers, along with water treatment issues. The concept of life cycle sustainability appeared notable. In addition, particularly in the 2012 Sustainability report, energy issues relating to efficiency development and use of bioenergy solutions appeared highlighted. Reports of both 2012 and 2014 had their social focus on employees – their health, wellbeing and training. In relation to this, the 2014 report discussed the conducted and developed employee reviews and personal work evaluations, which were seen as a fundamental part for company's sustainable improvement. The 2012 report also brought forth the importance of dialogue with both internal and external stakeholders and the continuous development of this communication.

Summarization of the common themes in Metsä's reporting is presented in Table 3.

Dimension	2000	2002	2004	2006	2008	2010	2012	2014
Environmental	Ecological benefit through efficiency improvements; Material recovery; Cleaner production	Efficiency improvements; Waste management; Water issues; Need for certifications	Emissions; Origin of wood; Efficiency improvements; Environmental certifications	Efficiency improvements; Material and resource efficiency; Energy efficiency; Emission reduction	Sustainable forestry; Origin of wood; Emission & Impact reduction (CO2); Environmental reporting improvement	Efficiency improvement; Material & resource efficiency; Sustainable forestry	Origin of wood; Life cycle sustainability; Energy efficiency; Bioenergy	Material & resource efficiency; Water treatment issues; Origin of wood; Life cycle sustainability view
Social	Customer orientation; Customer communication & satisfaction; Employee & leadership development (Competence mapping)	Customer orientation; Employee communication; Acknowledgement of social responsibility's importance	Job health & safety; Employee learning & development; Customer communication & satisfaction; Importance of communication with communities	Customer orientation; Customer satisfaction	Job health & safety; Human safety; Labour & human rights; Anti-corruption; Customer orientation	Employee wellbeing; Job health & safety; Employee communication; Competence mapping & employee training	Employee wellbeing; training & development; Dialogue with internal and external stakeholders	Employee development, learning, wellbeing, review, personal evaluation, work training & occupational safety
Economic	Profitability; Economic performance enhancement through customer orientation; Market position; Efficiency improvements	Efficiency improvements; Customer orientation; Profitability	Efficiency improvements; Profitability & economic performance; Energy issues	Economic performance; Cost reduction; Efficiency improvements	Market position; Efficiency improvements	Efficiency improvements; Competitiveness; Energy efficiency & economic performance	Energy efficiency related economic benefit	Efficiency improvements

Table 3. Themes in sustainability-related reporting of Metsä

4.3 Reporting of Stora Enso

During the observed time period from 2000 to 2014, Stora Enso published some sort specifically sustainability-related report each year which were placed under analysis. Besides environmental and social sustainability issues, these reports were also used as a source of information for general economic themes. As the economic dimension in relation to sustainability is under scrutiny in this particular research as well, the analysed reports were deemed sufficient in providing insight of the general economic focus of the company in each given year.

In the year 2000, Stora Enso published an Environmental Report, in which environmental issues were of course under particular attention. The sustainability notions regraded primarily the acknowledgement that the company should indeed operate in an environmentally responsible way, and continuously develop itself in regards to these matters. Particularly well represented were the issues regarding transportation-related environmental efforts and paying attention on the impact of logistics. Secondary to these, general forest certification promotion notions, waste reduction, renewable materials and resources, along with recycling were common. Remarks on social sustainability issues were scarce given the environmental focus, but revolved around general social responsibility and the importance of it. Concepts such as dialogue, transparency and communication were mentioned in these contexts, but the social content remained in rather general level. The themes in regards to economic sustainability appeared to revolve around general competitiveness and market position improvements, cost reductions and steady growth.

In 2002, Stora Enso published two separate reports to address sustainability issues more elaborately, called Environmental Resources Report, and Performance & Responsibility. Social sustainability notions were focused internal stakeholders, revolving around gender issues, cultural diversity, and occupational health and safety. Dialogue and transparency continued to be commonly noted in varying contexts. Environmental sustainability expressions had to do with climate change concerns, material and resource efficiency, waste management, material recovery,

and renewable materials and resources. In addition, the importance, development and increasing the share of biofuels had a more prevalent role than in the previously analysed report. Secondary to these, water treatment issues and wood traceability can be considered to have appeared in the sustainability speech. Economic issues in the 2002 sustainability-related reports remained similar to the year 2000.

In the year 2004, the company published a Sustainability Report, in which related issues were elaborately discussed. Environmental issues appeared particularly nuanced in a wide range of contexts, but the issues relating to ensuring proper origin of wood and the responsible supply chain management approach to sustainability was clearly brought forth more forcefully in this year's report. Remarks on the importance and promotion of forest-related certifications was also a common theme throughout the report in various contexts. Other environmental expressions were somewhat similarly present as in the previous reporting. References to economic sustainability remained similar to the previous as well. However, a rising theme of emerging markets and the opportunities brought by them appeared as a significant addition to the generic references to economic performance. The report also appeared to underline the company's economic responsibility towards its shareholders more than the previous sustainability-related reports. The mentioned social issues were rather diverse and similar in content to the previous reports. However, what became far more intensively acknowledged than before was the company's role in creating value in the communities which are affected by its operations. That is to say that in order to attain long-term success, the company must create value in some form to the external stakeholder community and not merely exploit the shared environment and social surroundings. The acknowledgement of this and including it in the reporting emerged more dominantly around this time.

The Sustainability Report of 2006 marked a subtle change in the way in which economic sustainability was expressed. The economic issues appeared to be mentioned more directly in relation to environmental and social matters – not quite so separately in a sense. There seemed to be a deliberate approach to discuss these issues in a more integrated way, expressing economic sustainability issues in

the same contexts as social and environmental sustainability matters in order to give the impression that economic issues are indeed considered to be an integral part of the three-dimensional sustainability as a whole. Discussing sustainability by addressing these three levels in a consistent manner – alternately in same contexts – indicates that the company is attempting to communicate that it considers that sustainability ought to be applied in a holistic, three-dimensional way. Regarding the environmental expression in the report, the general themes did not vary notably from the latest, previous years. However, climate change and related concerns had even greater role than in the previous reports. In addition, forest certification promotion and acquisition, along with wood origin and traceability issues were notably represented. Social sustainability remarks were dominated by occupational health and safety issues regarding employees. Other common themes from previous reports were also present. What is notable about this year's report – however – is the highlighting of so-called responsible workforce reduction. This indicates that the company was experiencing a phase of unusually high number of employee layoffs, which consequently became a vital issue to be addressed in the Sustainability report as well.

In 2008, Stora Enso published a report titled Sustainability Performance. Regarding the economic and environmental issues, the report was rather similar in content to the previous reports. Environmentally, the report was dominated by notions on climate change, and the related emission reduction needs, requirements and development in particular. Carbon footprint and related matters had a notable role as well. Social issues had a slightly different emphasis compared to the 2006 report especially. General labour and human rights were discussed in a relatively extensive way. The usual occupational health and safety, in addition to gender issues and the importance of community involvement were among the common social expressions.

From 2010 onwards, Stora Enso's sustainability efforts and considerations were presented in the Global Responsibility Report. Environmental expressions were dominated by water-related concerns, ranging from the acknowledgement of its scarcity and usage amounts to treatment. Climate-related matters such as carbon footprint and emissions reduction remained frequently mentioned in various

contexts, along with other general issues common in the previous reports to varying extents. Common economic sustainability issue – in addition to the usual ones in previous reports – was the increasing wish for higher self-sufficiency, the effort towards it and the benefit gained through it. Social issues revolved around human safety and rights, in addition to value creation to the community affected by company's operating.

As can be seen in the table 4, sustainability issues expressed in the reports of 2012 and 2014 remained rather similar to the previous years. No new themes can be seen to have emerged regarding sustainability issues. However, the common themes from the previous years are in fact well represented and elaborately discussed with no particular emphases that could be pointed out based on the analysis. Economic remarks revolve around issues related to general efficiency, whereas climate concerns and related actions, along with water issues among other commonalities continue in significant roles regarding environmental sustainability. Social dimension is covered by the common themes from previous reports, focusing on stakeholder issues, community value creation and general acknowledgement of social responsibility.

Summarization of the common themes in Stora Enso's reporting is presented in Table 4.

Dimension	2000	2002	2004	2006	2008	2010	2012	2014
Environmental	Environmental responsibility; Transportation-related environmental efforts; Certifications; Waste reduction; Renewable material and resources; Recycling; Improving environmental performance	Climate concerns; Material & resource efficiency (Renewables); Waste management & material recovery; Biofuels; Water treatment; Waste reduction; Wood traceability	Origin of wood; Forest certifications; Energy efficiency; Renewable materials & resources; Emission reductions; Biofuels; Water use; Transportation related issues; Sustainable forestry	Climate concerns; Forest certifications; Origin of wood; Emission reduction; Energy efficiency; Biofuels; Material & resource efficiency; Water treatment & use	Emission reduction Carbon footprint; Energy efficiency; Forest certification; Other issues similar to previous years	Water issues (treatment, use, scarcity); Climate issues (Carbon footprint issues & emission reduction); Recycling (Fibre); Origin of wood; Biodiversity; Energy efficiency; Forest certifications; Waste management	Climate concerns (Carbon footprint, impact reduction); Logistics impacts; Water use; Sustainable forestry; Renewable materials & resources; Recycling; Biodiversity; Origin of wood & wood traceability	Climate concerns (Emission reduction, carbon footprint); Biodiversity; Recycling; Logistics impacts; Water use; Sustainable forestry; Renewable materials & resources; Biodiversity; Origin of wood & wood traceability
Social	Dialogue, transparency, communication; Acknowledgement of social responsibility	Gender issues; Diversity; Job health and safety; Dialogue; Transparency; Workforce issues	Value creation in communities; CSR reporting improvements & promotion; Job health & safety; Synergies & cooperation; Employee wellbeing; Transparency; Stakeholder communication & engagement; Gender issues; Diversity issues	Job health and safety; Age & gender issues; Diversity; Responsible workforce reduction; Stakeholder feedback; Value creation for communities	Labour rights; Human rights; Job health & safety; Human safety; Gender issues (Women in management); Community involvement	Human safety; Human rights; Economic value creation to communities; Job health & safety; Training; Labour rights; Acknowledgement of social impact	Job health & safety; Stakeholder communication & engagement; Economic value creation to communities; Human rights; Business ethics	Job health & safety; Human rights; Business ethics; Value creation for communities; Gender issues

Table 4. Themes in sustainability-related reporting of Stora Enso, 1/2

Dimension	2000	2002	2004	2006	2008	2010	2012	2014
Economic	General competitiveness; Market position; Cost reduction; Steady growth	Economic performance; Cost reduction; Market position; Growth	Efficiency; Material recovery & energy efficiency; Economic responsibility for shareholders; Emerging markets & opportunities	Integrated economic responsibility in all levels; Three-dimensional sustainability	Integrated economic responsibility in all levels	Self-sufficiency efforts	Efficiency throughout supply chain & processes for economic gain & competitiveness	Efficiency throughout supply chain & processes for economic gain & competitiveness

Table 4. Themes in sustainability-related reporting of Stora Enso, 2/2

4.4 Overview of phases in dimensional levels

This section provides an overview of the companies' reports. The purpose is to inspect what kind of themes appear to have been common and whether distinct thematic periods can be seen in the reporting of each company during the observed time period from 2000 to 2014. The purpose of the empirical part of this study was to find out what kinds of themes were prevalent in the sustainability-related reporting of the case companies. Furthermore, the idea was to see whether the individual themes formed some type of underlying generic themes in the overall reporting within each company, and/or whether distinctive thematic periods could be detected over the course of time.

4.4.1 Stora Enso

Based on the thematic content analysis of Stora Enso's sustainability-related reporting, no overarching themes in the reports in their entirety can justifiably be declared cross-dimensionally. Nonetheless, examining dimensional levels separately, allows us to detect certain thematic commonalities and periodical development over the years.

In the environmental sustainability dimension, thematic periods cannot be determined. Similar subjects occur throughout the entire course of reporting in a rather balanced way. Climate-related concerns, emission reduction, logistics-related environmental issues, certification acquisition and promotion, waste reduction and management, renewables, recycling, biofuels, and wood origin and traceability, along with energy efficiency and water issues occur throughout the years from the very beginning. Remarks on biodiversity – its preservation and promotion – can be considered to have a slight increase in attention towards the end of the observed time period. In addition, from 2010 towards 2014, climate-related issues tend to have a more nuanced focus on carbon footprint and carbon dioxide emission reduction. Climate issues are present throughout, but towards the end they begin to detail carbon dioxide-related issues more specifically and elaborately.

Thematic differences are slightly more clearly distinguishable when observing the social dimension. In the very beginning of the observed time period, the social notions are primarily associated with internal stakeholders with an emphasis on employees. Social responsibility is acknowledged, but it mainly regards internal matters, such as employee communication, workforce diversity and gender issues, along with job health and safety, and other rather general matters. The wellbeing of employees is a very theme common throughout reporting, in addition to gender and diversity issues. The latter ones can be seen to steadily increase their share and importance over time and towards the end. Themes such as dialogue and transparency regarding sustainability issues are slightly more prevalent particularly in the early 2000s. From 2008 onwards, general human and labour rights issues to which particularly external pressure has been gradually increasing become a significant part of Stora Enso's reporting. From around 2004 onwards, the reported social matters are not so closely linked only to employees and internal affairs, but an increased acknowledgement of the importance of external responsibility occurs. The significance of creating value for the community affected by company's operating. It becomes increasingly acknowledged that operating in a certain area cannot – or at least should not – be unidirectional, but that the company must attempt to create some sort of value in the operating environment as well. This idea becomes a prevalent theme, revolving mainly around social charity in communities and other philanthropic support, but gradually evolving towards notions of creating a situation in which a community enjoys more specifically economic value in longer term. What is notable in the reporting is that around the year 2006, the concept of responsible workforce reduction is relatively highlighted. This reflects the occurred layoffs around that time. Another common theme throughout is the development of CSR-related reporting. This aspiration for CSR reporting development is brought forth in 2004, after which it not really underlined as a term but is actually put to action, followed by more concrete explanations of development focuses and how that reporting is being enhanced through intensified evaluation.

The economic themes are rather similar throughout Stora Enso's sustainability reporting. No particular emphases or thematic periods can justifiably be declared. General issues related to economic efficiency and enhancing competitiveness are

among the basic themes. From the year 2006 onwards, economic issues begin to be discussed more closely in relation to environmental and social issues. It appears to begin to be noted and underlined that economic sustainability should not be considered as separate from the other dimensions, but that it is inherently part of the three-dimensional constitution of proper sustainability. It is somewhat brought forth that by performing well in all three dimensions of sustainability, long-term success is achieved. The three dimensions are interlinked and thus high performance in each of them is cross-beneficial. In the reports from 2000 to around 2006, economic responsibility towards shareholders was a commonly remarked. There was a sense of wishing to please shareholders. At the same time, social sustainability notions referenced to layoffs and responsible workforce reduction, as well as implied economically challenging times. The reports had a sense of assuring shareholders and other instances that the company is doing relatively well considering the circumstances and challenges in the operating environment. After these times, integrated economic responsibility and holistic, three-dimensional sustainability become a fundamental part of the overall tone of the reports. Economic sustainability as a key part of holistically sustainable supply chain and striving for such management emerges around 2004-2006 and becomes a commonly noted issue from thereon. Around the same time, references to self-sufficiency become a thing, possibly in response to operating environment changes and emerged wish for being less vulnerable to related fluctuations. In addition, challenges in traditional markets – primarily European – and increasing realisation of the potentials of new emerging market areas, along with a gradual shift towards them can be seen as major driver of change. Such change does not occur without its challenges in the field of sustainability as well, as the operating environments differ from each other.

In all it can be said that the analysed reports of Stora Enso do not radically differ from each other thematically. However, the abovementioned thematic variances and developments can be observed, providing valuable information for further reflection with the theoretical background of this particular study.

4.4.2 Metsä

In order to gain a fuller understanding of the themes in Metsä's sustainability reporting, the three dimensions are discussed separately as in the section above. The analysis discovered that Metsä's reporting on social issues between 200 and 2014 was dominated by two distinguishable thematic areas – customer orientation and employee matters. Essentially all the references to social sustainability issues have to do with either employee development, job health and safety or the company's strive for higher level of customer orientation, their satisfaction and betterment of communication with them. These matters expressed elaborately in various ways and in varying contexts dominated the reports throughout. The issue of social responsibility and its importance was acknowledged and expressed in the reporting early on. Addressed social issues gradually became more detailed and diverse, although essentially falling under one of the two aforementioned categories. The analysis indicates that customer orientation and satisfaction as themes were in a particularly strong role especially until around 2006-2008, after which it appears less dominant yet remains as an integral part of the reports. From 2010 onwards, social reporting is characterized by employee-related issues more keenly.

The economic issues addressed in the analysed reports quite typical and rather general in nature. The most prevalent theme throughout the reporting is efficiency improvement and everything related to it. In the beginning of the new millennium, profitability as a term and endeavours for its betterment were frequently mentioned. It appeared to be implied that the company had experienced some profitability challenges which reflected in the reports by heightened addressing of profitability concerns and what is being done for its betterment. Focus on customer orientation is often mentioned in the context of economic betterment as well, along with for example cost efficiency and market position securement and enhancement. These rather general concepts occur as common themes, but otherwise the economic issues are not particularly specific in the sustainability context. Efficiency improvements in all levels – not restricted to economic matters – appears to be a key thematic area in the sustainability reporting of Metsä.

No particular thematic periods can be seen in the environmental dimension of Metsä's reporting, even though several common themes occur. Environmental reporting essentially revolves around the same themes throughout the analysed period. Environmental benefit though efficiency in various levels characterizes the content. The significance of environmental certifications and their acquisition, along with operating in compliance in terms of related laws and regulations are acknowledged from the beginning of the observed time period and remain as important themes throughout. In addition – around 2004 and onwards – emission matters and particularly the reduction of carbon dioxide appear to increase in their significance – similarly to Stora Enso's reporting. Much like in the other case companies, wood-related issues – such as its origin and traceability – emerge as a notable theme around 2004 and remain significant from thereon. In addition – similar to Stora Enso – there appears to be a trend of life cycle sustainability and the holistic view of sustainability in general becoming thematically significant over time towards the end. There is a sense of expressing the acknowledgement that the different sustainability functions and efforts are not to be considered separate, but that there is an aspiration to attain higher sustainability by holistically applying measures throughout the supply chain and evaluating it and product life cycles in their entirety. This approach appears to emerge as a general thematic undertone in the reporting of Metsä.

4.4.3 UPM

No particular thematic periods can be justifiably declared among the economic sustainability expressions of UPM's reporting. Profitability, competitiveness and everything related to their enhancement are present in the reports throughout the observed time period. Particular highlighting of certain themes is scarce. General growth-related notions emerge slightly more strongly around 2010 and thereon – however – without being particularly dominant in any way. Around the mid-section of the observed period, one may detect a sense of latency in the general tone in which economic issues are discussed. Around this time, talk of launching a profitability program occurs and there appears to be an emphasis on conveying a message that everything is in balance and that besides certain latency and quiet

phase in terms of growth and profitability, things are going well. Towards the end, cost-related notions, such as cost leadership and cost efficiency appear as common themes, but cannot be considered to in any way dominant or particularly emphasized. Around the year 2008 and from thereon, references to the wish to attain higher level of self-sufficiency emerged as a new theme. Somewhat similar emergence occurred in Stora Enso's reporting as well. There appeared to be a similar tone in UPM's reports of wishing higher self-sufficiency, as it makes the company less vulnerable to sudden changes in the operating environment. This thematic emergence occurs at the same time with cost-related enhancement issues becoming slightly more prevalent in the reporting.

Particular thematic periods are not present regarding social dimension either. However, issues in two thematic areas appear rather dominant according to the analysis. These are stakeholder engagement and communication – referring primarily to external stakeholders – and employee issues ranging from safety and health to their training, personal development and sense of engagement. These thematic areas are in focus throughout the reports with slightly varying emphases in each given year. This appears rather similar to the social reporting of Metsä, where customer orientation and a variety of employee-related matters were thematically dominant. Transparency as something to be worked towards is also a prevalent theme in UPM's reports from the beginning. The notion of creating value for the community affected by company's actions in its operating environments is also something which is acknowledged in a very early stage. This is similar to Stora Enso's social sustainability reporting, as previously described. The acknowledgement of such responsibility is expressed early, after which the expressions revolve around presenting what is actually being done to create this value, rather than merely promoting the need for it.

The expressions related to environmental sustainability in UPM's reports are very diverse and elaborate from the beginning to the end. The same themes occur throughout the observed reporting period with slightly varying emphases, but no particular thematic periods can be justifiably determined. From 2000 to 2006, a slight thematic emphasis on emission and pollution issues, along with general climate

concerns and impact reduction efforts occurred, after which – around 2010-2014 – the importance and increase of renewable materials and resources became more specifically underlined. It is to be noted – however – that these themes are by no means discussed in any way separately from each other, but rather in an inherently interlinked and intertwined manner. For example emission-related issues occur in the very beginning and remain as an important theme from thereon, being complemented with more detailed and specific notions of renewable resource enhancement, recycling and other solutions of similar nature around the year 2008 and thereafter. The latter are discussed in close relation to climate and emission matters. Telling about concrete solutions and developmental actions that are taken to address climate concerns become important, rather than merely expressing and acknowledging concerns in a general level. The remarks become more detailed and elaborate, but the main focus remains on similar issues. Other common themes throughout reports are matters related to the origin and traceability of wood, responsible sourcing and water treatment and its scarcity. The development and embracement of biofuels and their significance for the company's – and the world's – future is also a strong theme, due to UPM's line of business. All things bio-related is a major thematic area in UPM's reporting in general. What is notable and different from the others in UPM's reporting is how the desire for holistic life cycle sustainability and sustainable supply chain is expressed from the very beginning and remains a theme throughout. This does not mean that UPM fully applied the holistic sustainability approach in practice earlier than the other case companies, but the holistic view is acknowledged as the way to go from early on, possibly before the time period observed in this study.

As can be noticed in the thematic overviews of the case companies' sustainability-related reporting, no distinctive underlying themes between all three case companies could be detected based on the analysis. The occurred themes in each company's case were diverse, and it is not possible to justify a declaration of a distinct overarching theme for periods of time or for an individual report for that matter. Assigning each report or period of reporting with a single description would be an oversimplification ignoring the thematic nuances discovered through analysis. Such oversimplification would offer a distorted form of the results. Preserving the

findings in the form presented above and as they are portrayed in the thematic timelines (Table 2; Table 3; Table 4) allows a more fruitful basis for further analysis and reflection with the theoretical background of this thesis. The presented themes and semi-periodic occurrences of certain themes provide an insightful basis for theoretical reflection. Further inductive simplification of the occurred themes would be unnecessary or even detrimental in the discussion of the results.

4.5 Comparison of the case companies

Despite the lack of distinctive thematic periods shared by all the case companies, there are – however – some similarities to be seen in their reporting.

Environmental sustainability issues are covered most elaborately in the reporting of case companies. This is the case from the very beginning of the analysed time period. Common environmental themes range from wood origin and traceability, waste management and water-related concerns to biofuels, bioenergy and increasing the use of renewable materials and resources. Environmental themes are commonly filled with references to higher efficiency and attaining sustainability throughout product life cycles and companies' supply chains. There is a sense of three-dimensional sustainability's importance becoming increasingly acknowledged towards the end of the observed period. Companies with increasing intensity express that they wish to apply sustainability principles in a more integrated way, and that this type of holistic approach to sustainability is the key to success as well. To extent to which such attitude to sustainability can be seen in the reporting varies between the case companies - UPM and Stora Enso conveying it most clearly. Another common environmental theme between the companies has to do with the way climate change concerns and related issues are expressed. Such issues are prevalent from the very beginning, but it is notable how they become increasingly elaborate and intensify in their nature towards the end. References to emission reductions and what is actually being done to address climate change become more nuanced and express more practical solutions. This can be seen to reflect the ever-increasing significance of climate change and concerns related to it in the world.

Social sustainability issues have more thematic variance among the companies over the years. Employee and customer-related issues dominate the dimension in general but there are no particular themes that would have been shared by all the companies throughout the years, unlike amongst the environmental sustainability issues. Based on this, there appears to have been a lack of shared standards or consensus regarding the reporting of social matters. Several themes are covered over the course of time, but nothing in specific – apart from employee and customer issues – is consistently addressed. The social reporting among the case companies appears to be still in the stage of finding its form. This could be partially explained by the fact that the companies operate in an industry in which environmental matters have traditionally been the primary concern. The social responsibility has potentially been somewhat overlooked, as the shared focus has been on mitigating the negative impacts on the natural environment. Reporting on employee-related issues appears long-established in the industry, but external stakeholder matters are still in gradual development without having mutually shared standards or consistent themes as of yet.

The most common – but rather general – factor in the overall economic sustainability reporting is efficiency and everything related to its improvement. This is perhaps not a surprising finding as businesses do tend to strive for the most efficient – yet uncompromising – way of managing themselves. What is – however – notable in the reporting of the case companies is the contextual direction to which economic sustainability appears to evolve over time. Towards the end – particularly from around 2006 onwards – economic sustainability is increasingly discussed in relation to environmental and social issues. There appears to be a growing sense of attaining success by embracing the three-dimensional view of sustainability and applying sustainability measures holistically in all levels throughout company. There is a sense of the holistic approach to sustainability gradually becoming acknowledged as the most plausible way to long-term success. In the beginning of the observed reporting period, the three dimensions were discussed more as distinctively separate sustainability fields in which to perform, whereas the general tone towards the end is more integrated and assumes a more holistic approach.

The similarities in the case companies' sustainability-related reporting described above are of course generalizations to a certain extent. The contents of the reports are thematically more nuanced, as shown in the previous segments of this chapter. However, the perceived similarities provide a basis for reflecting the results in a larger scale with the cognition literature and evaluating the significance of sustainability and its evolution in the industry level.

4.6 Overview of apparent sustainability drivers in companies' reporting

Generally speaking, the grandest drivers according to the reporting during the beginning of the new millennium were legal pressure and compliance to it, along with the changes in the traditional operating environment and the emerged challenges and opportunities as a result of new growth markets – the latter having slight emphasis variances depending on the company in question and the extent of its operations in said markets. Although climate change, related concerns and required actions were not separately identified as a specific driver in the data analysis process, it is clear that such issues constitute a foundational driving force. Legal pressure and tightening environmental sustainability requirements would not have emerged in the first place, if climate change and human impact on the natural environment was not an issue. Whether the real driving force of environmental sustainability in each company is legal compliance, a genuine ethical sense of responsibility towards nature as a virtue itself, or a combination of these factors among others is hardly possible – or even relevant – to be determined. What appears to be a major driver of both environmental and social sustainability among the case companies based on the content of their reports is – however – the legal pressure. Particularly in the beginning of the new millennium, the reports uniformly refer to the legal demands, how are they addressing them and how are they internally developing their corporate culture and actions to become more sustainable as a whole. In addition to legal pressure and call for compliance, the gradual changes in the companies' operating environments appear to be a fundamental driver of change in general and a force for greater regarding of sustainability.

Towards the end of the analysed time period, the sustainability challenges and opportunities brought by the intensifying extent of operating in new market areas emerges as a significant driver in various ways. Innovation also seems to be appear as a driver of sustainability, which can be notably observed in UPM's reporting and towards its end in particular.

A concept with certain vagueness which could be considered to be driving sustainability is companies' ongoing wish for higher efficiency – something towards which business in general tend to strive. In this context efficiency is seen as having a two-levelled positive impact, resulting in economic benefit combined with environmentally positive implications. Operating as efficiently as possible in economic terms does not automatically cause environmentally positive results of course, but in the reporting of the case companies there is a trending manner of linking positive environmental performance with economic benefit as well. Which of these two things – economic or environmental – is ultimately more important for the companies cannot be determined based on the analysis. Companies ultimately wish to continue to exist which means that they must take care of their economic bottom line. However, as acknowledged by the case companies and suggested by prior literature as well, performing well in all areas of sustainability benefits the company – the dimensions of the three-dimensional view are not separate. Environmentally and/or socially beneficial implementations can ultimately have immense positive effects on the economic performance if managed properly and coherently. Higher resource efficiency, recycling and material recovery – for example – have both environmental and economic benefits. As suggested by prior research, sustainable operating behaviour can be an opportunity and a source of competitive advantage for companies, which can be seen reflected in the case companies' reports as well, particularly as the idea of sustainability's holistic adaptation in all levels gradually emerges more strongly in the content during the analysed time period.

All these drivers mentioned here are of course inherently intertwined and reciprocally influenced by each other. This makes it extremely challenging for any particular influencers to be declared as specific drivers. However, the rather generic

drivers within these companies appear to be the ones denoted above based on the expressive content of the companies' reporting over sustainability issues.

5 DISCUSSION AND CONCLUSIONS

This chapter discusses the findings of the empirical analysis in relation to the theoretical background of this study. The observed similarities in the sustainability-related reporting of the case companies are reflected with the cognition literature reviewed earlier. This chapter discusses what can be said about the changes in cognition and dominant logic within the companies and the industry based on the observed evolution of sustainability themes in the reporting. In addition, the results are briefly compared with those of previous studies on Finnish forest industry with sustainability-related topics. Finally, conclusions are derived based on the reflective discussion.

5.1 Reflection of themes and prior literature

As described in the previous chapter, the increasing popularization of climate-related concerns over the past years could be seen in the reports. Emission reductions, usage of renewables and a variety of climate-related themes became increasingly prevalent and elaborate in the course of time towards the end, implying that such concerns have indeed been recognized and addressed by the companies. The appearance of such a trend can be seen to be confirmed by Mäkelä (2017) who focused on environmental indicators in the reports of the same companies. Koskela (2011) arrived in similar conclusions, noting that among Finnish forest industry companies, these issues are in fact well represented and emission impacts in particular are rather thoroughly measured. Koskela (2011) also noted that various water, energy and air-related impact issues among other environmental matters are frequently covered in the reports of these companies, something which is found to be the case based on this study as well. These notions correspond with this study's finding that the reporting on environmental issues is further developed among the case companies, whereas social matters are still "finding their form", in terms of what and how to report regarding them. As mentioned in prior literature on sustainability drivers and adaptation (e.g. Tuuva-Hongisto & Timonen 2011; Mikkilä 2006; Linnenluecke & Griffiths 2010), the local culture and social perceptions in certain operating environments and market areas can have a major impact on the

way a company's role and responsibilities as an operator in a community is seen. Now when the case companies are – to varying extents – finding their role and appropriate ways of operating in new and developing market areas, the social expectations and related responsibilities may not be perfectly clear to them. The expectations regarding social responsibility and potential community involvement may vary between areas, especially between the traditional European market and the new developing markets of Asia. The pressure experienced by the companies may be different and areas may have varying social needs. The stakeholders in different areas can have varying social concerns and appreciate different kinds of efforts. As a result, it is challenging for the companies to form a coherent and unified – yet detailed – social code of conduct for the entire firm, apart from the rather generic issues such as respect for human and labour rights, human wellbeing, anti-corruption and other matters of such nature. Establishing the one and the same social sustainability programme – for example – in all the areas where the company operates may not be appropriate, being ineffective due to the regional differences. This notion was made by Mikkilä (2006) as well. Consequently, there is also a challenge in what to include in company-wide reporting over social sustainability. Perhaps partially because of this challenge – or uncertainty – social reporting within the case companies has not fully settled, but appears to be still finding its form, as the companies are attempting to fathom – firstly – which market area(s) are going to have their operative emphasis in the future and – secondly – what are in fact the practical, international standards of social sustainability regarding more nuanced issues of responsibility. This type of uncertainty – noted by Hänninen et al. (2013) as well – can be considered to influence the social reporting of the case companies to an extent. In terms of environmental sustainability issues, there is a far greater global unanimity and – perhaps more significantly – there are various suggested indicators and methods for measuring and reporting environmental performance in a consistent and globally comparable fashion. Environmental issues are in general more easily – or at least more clearly – expressed or reported in a quantified and/or standardized way at the moment, as noted by Mäkelä (2017), whereas social sustainability matters tend to be more ambiguous and multidimensional, making them challenging to be systematically reported. Carbon dioxide emissions are easier to measure than human discomfort. This is not to say that environmental

sustainability-related measurements and reporting are by no means in a perfect state, but the field is more established at the moment, even though further development is obviously required.

Koskela & Vehmas (2012) argued in their paper that eco-efficiency among Finnish forest companies can be seen either as an indicator of environmental performance – as it traditionally is – or as a business strategy for sustainable development. This idea is also confirmed by this study, as references to economic efficiency are not only prevalent and intensifying over time, but can increasingly be seen to be viewed in close relation to environmental efficiency efforts. There is indeed a sense of environmental and social responsibility becoming viewed as integrated parts of companies' strategies. In fact, efficiency in environmental matters can be considered to characterize much of the companies' decisions, as it provides positive implications in two levels, by lessening the environmental impact and resulting in e.g. cost savings among other economic benefits. Eco-efficiency – and sustainability in general – can be an advantageous for a business in many respects as a strategic choice. More precisely Koskela & Vehmas (2012) note how the companies gradually enhanced their eco-efficiency e.g. through applying life cycle approach to environmental management, enhancing recyclability, and maximizing the use of renewable materials and resources. All of these were found to be among the gradually trending themes based on the empirical analysis of this study as well. The holistic sustainability adaptation – i.e. life cycle approach and working towards higher supply chain sustainability – was indeed found to be an increasingly expressed theme and the aspired future direction. Parallels to the concept of strong sustainability can be sensed in this thematic trend. The companies could be considered to be inclining towards the strong sustainability view, according to which performing highly in one dimension cannot compensate the damage of low performance in another (e.g. Adams 2006; Cabeza Gutiérrez 1996). Striving for comprehensive adaptation of sustainability throughout the organization and its operations implies that the companies are acknowledging the benefit of holistic sustainability. Comprehensive approach to sustainability is vital for long-term success, as concluded by previous studies (e.g. Baumgartner & Ebner 2010; Labuschagne et al. 2005). Such view appears to evolve towards increasing

significance as a general tone in the reporting of the case companies based on the occurred themes.

5.2 Reflection on cognition

This and the following segment reflect the findings of the empirical research with the previous literature on cognition and dominant logic reviewed in Chapter 2. The purpose of this segment is to fully address the research question by discussing what can in fact be said about the change in cognition and dominant logic – within the companies and in the industry – based on the evolution of sustainability-related themes in the case companies' reporting.

First of all, it ought to be kept in mind that cognition, managerial cognition and dominant logic are not distinctively separate, but rather inherently intertwined theoretical conceptualizations in the same field of research. Because of this interrelatedness, the concepts are here addressed together as far as possible, being discussed in the context of cognitive change in general.

As the literature suggests, drastic change must occur in the operating environment or a certain tipping point must be reached in order for existing mental models in cognition to alter and adjust (e.g. Barr 1998; Kaplan 2011; Barr et al. 1992; Maijanen 2015). The change in the operating environment of the case companies has become significant over time, but has not occurred particularly fast. Concerns over climate change issues and call for sustainability have gradually intensified. Environmental concerns have become a game changer for forest industry companies. In the past, forest companies in Finland had notable freedom to operate the way they wished for the sake of economic growth, because of their importance for the Finnish economy (Mikkilä 2006). Things have changed and the case companies increasingly operate in a global level, creating a whole new set of challenges, such as the ones described earlier in this chapter. Companies are not justified to do whatever they desire in the name of economic growth and the pressure from legislators and the public for sustainability considerations is ever-increasing. As a so-called heavy industry, the forest industry has emphasized environmental issues

in their reporting. However, social issues have gradually increased their significance (Dempsey et al. 2009) and this can be sensed in the reporting based on the findings of this study as well, marking a change in cognition in the industry.

Suggestive of cognitive change in the industry is also the observed intensifying acknowledgement and subtle emphasis of the three-dimensional view of sustainability and that it ought to be applied holistically in order to succeed in the long run. When before there was a sense of sustainability being seen as a separate matter to be compliantly addressed, the growing consensus appears to be more directed towards seeing sustainability as something that ought to be implemented as a fundamental part of business in order to remain competitive in the future. Sustainability could be something upon which the entire business strategy is based, as expressed by Koskela & Vehmas (2012) as well. The indication of three-dimensional view of sustainability becoming increasingly acknowledged as the potential core direction for the future is perhaps the most significant notion regarding shift in cognition that can be suggested based on this research.

The matters which are the most crucial for survival are adopted quickly, according to the Baldwin effect. Dennett (1991) saw parallels between this evolutionary biology concept and cognitive change. (Dennett 1991, 226-227) He discussed the similarity in an individual level, but the same principle could be applied beyond that as cognition is not necessarily something tied to individuals (Dennett 1991, 228). I see a relation with this idea and various theoretical patterns suggested in cognition-related literature. Much like the adoption of something new occurs quickly when it is crucial for survival, something new is adopted in cognition in a faster pace when the mismatch between existing models and the surrounding reality reaches a certain tipping point. In the case of forest industry, it cannot be said that change in the surroundings has been particularly rapid, but it has been fundamental and with pressing implications. It is increasingly crucial for survival to address and adopt sustainability. Growing environmental consideration demands by legislators, consumers and the public sector in general, along with challenges in traditional market and potential opportunities in new market areas indeed constitute a fundamental change factor that is forcing the companies to rethink their strategies

and approaches to their business. Sustainability cannot be altogether ignored at this point, but it can be turned into a multi-dimensionally beneficial strategy and basis for business. There is a sense of cognitive acknowledgement of this, based on the thematic evolution of reports' content.

The case companies are all in the same industry in Finland and can therefore be considered to be "close" to each other. Such nearby firms have been theorized to assimilate similar models which constitute their cognition (e.g. Johnson & Hoopes 2003; Bettis et al. 2003). Based on the findings and further reflection, similarities can indeed be claimed in the cognition within the Finnish forest industry. However, the reasons for these similarities cannot be confidently declared based on this particular study alone. The companies are not likely to have assumed similar cognitive models – which are then expressed in the thematic content of the reports – solely based on each other, but similar challenges and changes faced in the shared operating environment have obviously contributed to the cognitive change. The companies do not occur in a vacuum, which is the basis for shared cognition and patterns.

5.3 Implications of dominant logic

What companies include in their reporting reflects their dominant logic (Maijanen 2015), and as sustainability issues do constitute a significant part of the reporting of the case companies, it can be determined as a crucial part of the way they operate and attempt to achieve success. It can also be said that since these issues covered in the reports gradually become more elaborate over the years, the trend is ever-increasing and addressing sustainability, along with making it a fundamental part of one's business will only continue grow in significance. This phenomenon in the industry corresponds with the intensifying concerns in the public discourse over climate and human well-being. The reporting content indeed appears to evolve over time, responding to changes and challenges in the operating environment in general to varying degrees. Periods with unusual amounts of layoffs, financially challenging times, market slowdowns and increasing significance of new emerging markets for example can all be detected in the reporting contents over the years.

What is notable is the cumulative nature of the expressed sustainability content as it gradually becomes more and more complex and elaborate. This type of cumulativeness is characteristic to the evolution of the analysed content. Indeed, dominant logic in general is considered to be strongly influenced by past experiences as it is inherently path-dependant (Maijanen 2015). Even though clearly distinct change periods cannot be outlined based on the findings of this study, the reporting content of earlier years is – perhaps unsurprisingly – foundational for the following report. New themes emerge as additions to much of the existing themes from previous reports, addressing freshly arisen concerns or complementing another thematic area which was previously covered perhaps rather superficially. This is particularly the case among the environmental matters, whereas the social dimension has more divergence and lesser amount of consistently covered themes across the case companies. As mentioned earlier, this indicates that environmental sustainability is something which is better established in the industry, and there is more conformity and consensus regarding the environmental matters which ought to be covered and communicated, whereas social sustainability is yet to establish itself as a more systematic field of reporting with common standards and consensual themes.

The foundational directions a business has taken in its attempt to gain success constitute its dominant logic (e.g. Watson et al. 2012). Based on this research, it can be concluded that sustainability has been a crucial part of the case companies' operating between 2000 and 2014 and that sustainability also plays a notable role in the companies' view of operating successfully in the future. This means that sustainability has been part of the dominant logic in the Finnish forest industry – to varying extents – and its significance as a part of dominant logic is only likely to increase. The fundamentality of sustainability appears to have been gradually acknowledged.

In summary, it can be concluded that the cognition within the industry seems to have been evolving towards higher regarding of sustainability and more fundamental adopting of sustainability principles in practice throughout company structures. Even

though sustainability was present in the beginning of the observed time period already, there has been a change in the cognition regarding the way sustainability is viewed. Over the years, there is a sense of gradual change from viewing sustainability as something separate to be addressed, towards considering it as something which not only ought to be holistically implemented as a principle, but could in fact be a multi-dimensionally beneficial business strategy in itself in the future. This implies fundamental shift in cognition from seeing sustainability as a mere necessity in terms of legal compliance and company image management, to also being considered as an opportunity. It is – however – too early to proclaim that such a fundamental cognition shift has fully taken place in the industry, let alone being effectively practiced in reality. Nonetheless, there are implications that the companies are in a stage of gradual transformation. In this period, environmental concerns are ever-increasing, social reporting is finding its form and sustainability is beginning to be seen as an advantageous strategy. These altogether are contributing to the change in the role of sustainability and the way it is seen in the industry – signifying gradual change in cognition.

5.4 Contributions and limitations of the study

This research confirmed several indications from previous studies regarding sustainability in the forest industry. The extensive role of environmental issues was verified, while contributing to the elaboration of social sustainability's examination. This study also contributes to the literature on the role of sustainability and the effect of its popularization in corporations in general. In addition, this study contributes to the examination of change in cognition and dominant logic based on reporting of companies. Moreover, the results of this study indicate that there is a gradual – yet fundamental – shift in cognition occurring among major operators, appearing concurrently with the intensifying call for greater sustainability in global scale.

This study focused on sustainability and the evolution of its significance over a period from 2000 to 2014, reflecting this evolution with prior research on cognition. The scope was narrowed in order to gain a more nuanced understanding. The other constituents of the companies' dominant logics were not examined, and separate

studies are required if complete pictures of companies' dominant logics are wished to be had. The purpose of this study was not describe and detail the dominant logic in the case companies in entirety, but the part of sustainability in it. In addition, this thesis does not comment on the practical actions that have or may not have been taken to address sustainability issues. The focus was on how sustainability-related themes have evolved in reporting, as this evolution is considered to reflect changes in cognition. No ground-level empirical research was done on the execution of the sustainability endeavours expressed in the reports, due to the scope and purpose of this study.

5.5 Future research suggestions

Future research on a similar topic could include detailed analysis of the investments made by companies in relation to their sustainability speech. The investment data could be used as a basis for determining what companies actually appreciate and what kind of issues are valued by them. Comparing what is being said about sustainability values and what is being done in reality would reveal the genuine level of sustainability within organizations by bringing forth potential inconsistencies and mismatches between words and actions.

Similar topic could also be studied by expanding the time period under analysis. A time period of e.g. several decades might allow detection of larger themes and thematic periods in the reporting, as the changes over a longer period of time can be expected to be greater, due to the emergence and popularization of sustainability in this era. The challenge with reports from a longer period being analysed is – however – that the reporting practices from a long time ago may not be relevantly comparable with the modern reports. Given the trending fashion in which sustainability reporting appears to be developing, the evolution of sustainability in companies is likely to be a fruitful field of research in the future as relevant data continues to compile. The social dimension in particular offers an interesting basis future research, as it becomes increasingly addressed and elaborately discussed among companies.

REFERENCES

- Adams, W.M. (2006) *The Future of Sustainability: Re-thinking Environment and Development in the Twenty-first Century*. Report of the IUCN Renowned Thinkers Meeting, 29-31, January 2006. The World Conservation Union.
- Barr, P. S. (1998). Adapting to unfamiliar environmental events: a look at the evolution of interpretation and its role in strategic change'. *Organization Science*, 9, pp. 644–69.
- Barr, P. S., Stimpert, J. L., & Huff, A. S. (1992) Cognitive change, strategic action, and organizational renewal. *Strategic Management Journal*, 13 (Summer Special Issue), pp. 15–36.
- Bartlett, A. (2006) Reflections on Sustainability, Population Growth, and the Environment—2006 In: Keiner et al. 2006. *The future of sustainability*, pp. 16-37.
- Baumgartner, R.J. & Ebner, D. (2010) Corporate sustainability strategies: sustainability profiles and maturity levels. *Journal of Sustainable Development*. 18, pp. 76-89.
- Benn, S., Dunphy, D., & Griffiths, A. (2014) *Organisational Change for Corporate Sustainability*, 3rd edition, Routledge.
- Benn, S. (2002) Integrating Human and Ecological Sustainability. Australasian Evaluation Society International Conference, 2002.
- Berns, M., Townend, A., Khayat, Z., Balagopal, B., Reeves, M., Hopkins, M. & Kruschwitz, N. (2009) Sustainability and competitive advantage. *MIT Sloan Management review*, vol. 51 no. 1.
- Bettis, R. A., & Prahalad, C. K. (1995) The dominant logic: Retrospective and extension. *Strategic Management Journal*, 16(1), pp. 5–14.
- Bettis, R. A., Wong, S. & Blettner, D. (2003). Dominant logic, knowledge creation, and managerial choice. In M. Easterby-Smith & M. A. Lyles (Eds.), *Handbook of organizational learning and knowledge management*, pp. 343–355. Oxford: Blackwell Publishers.
- Byrne, E., Desha, C., Fitzpatrick, J. & Hargroves, K. (2010) Engineering education for sustainable development: a review of international progress. 3rd International Symposium for Engineering Education, University College Cork.
- Buyl, T., Boone, C. & Matthyssens, P. (2011) Upper echelons research and managerial cognition. *Strategic Organization* 9(3), pp. 240 –246.
- Cabeza Gutes, M. (1996) Commentary: The concept of weak sustainability. *Ecological Economics* 17, pp. 147-156.
- Chang, D-S., Kuo, L. & Chen, Y. (2013) Industrial changes in corporate sustainability performance - an empirical overview using data envelopment analysis. *Journal of Cleaner Production* 56, pp. 147-155

- Cooper, D. & Schindler, P. (2014) *Business Research Methods*, 12th edition. McGraw-Hill/Irwin.
- Cowan; D., Dopart, P., Ferracini, T., Sahmel, J., Merryman, K., Gaffney, S. & Paustenbach, D. (2010) A cross-sectional analysis of reported corporate environmental sustainability practices. *Regulatory Toxicology and Pharmacology* 58, pp. 524–538
- Creswell, J. (2003) *Research design: Qualitative, quantitative, and mixed methods approaches*, 2nd edition.
- Dempsey, N., Bramley, G., Power, S. & Brown, C. (2009) *The Social Dimension of Sustainable Development: Defining Urban Social Sustainability*. Sustainable development 2009.
- Dennett, D. (1991) *Tietoisuuden selitys*. Art House.
- Diaz-Balteiro, L., Voces, R. & Romero, C. (2011). Making sustainability rankings using compromise programming. An application to European paper industry. *Silva Fennica* 45(4), pp. 761–773.
- Elkington, J. (1997) *Cannibals with Forks: The Triple Bottom Line of 21st Century Business*.
- Epstein, M. & Roy, M-J. (2001) Sustainability in action: Identifying and measuring the key performance drivers. *Long Range Planning* 34, 585–604.
- Epstein, M. & Roy, M-J. (2003) Making the Business Case for Sustainability: Linking Social and Environmental Actions to Financial Performance. In *The Journal of corporate citizenship*, Issue 9, pp. 79-96.
- Flick, U. (2014) *An introduction to qualitative research*, edition 5. Sage Publications.
- Giunipero, L., Hooker, R. & Denslow, D. (2012) Purchasing and supply management sustainability: Drivers and barriers. *Journal of Purchasing & Supply Management* 18, pp. 258–269.
- Glavic, P. & Lukman, R. (2007) Review of sustainability terms and their definitions. *Journal of Cleaner Production* 15, 1875-1885.
- Goodhew, G. (1998) *Cognition and Management: Managerial Cognition and Organisational Performance*. Doctoral dissertation. University of Canterbury.
- Gopalakrishnan, K., Yusuf, Y., Musa, A., Abubakar, T. & Ambursa, H. (2012) Sustainable supply chain management: A case study of British Aerospace (BAe) Systems. *Int. J. Production Economics* 140, pp. 193–203.
- GRI Global Reporting Initiative (2000) *Sustainability Reporting Guidelines*.
- Guthrie, J., & Abeysekera, I. (2006). Content analysis of social, environmental reporting: What is new? *Journal of Human Resource Costing & Accounting*, 10(2), pp. 114-126

- Hahn, T., Preuss, L., Pinkse, J., & Figge, F. (2014) Cognitive Frames in Corporate Sustainability: Managerial Sensemaking with Paradoxical and Business Case Frames. *Academy of Management Review*, 39(4), pp. 463-487
- Hänninen, R., Katila, P., Västilä, S. (2013) Megatrendit muuttavat Suomen metsäalaa. *Metsätieteen aikakauskirja* 4, pp. 675–678.
- Harris, J. M. (2000) *Basic Principles of Sustainable Development*. Global Development And Environment Institute, Working Paper 00-04. Tufts University.
- Heinberg, R. (2010) What is sustainability? In: Heinberg, R. & Lerch, D. (2010) *The Post Carbon Reader: Managing the 21st Century's Sustainability Crises*, Watershed Media.
- Hendry, J. (2000) Strategic decision making, discourse, and strategy as social practice. *Journal of Management Studies*, 37:7, pp. 955-977.
- Henriques, I. & Sadorsky, P. (1996) The Determinants of an Environmentally Responsive Firm: An Empirical Approach. *Journal of environmental economics and management* 30, pp. 381-395, Article no. 0026.
- Johnson, D. & Hoopes, D. (2003) Managerial Cognition, Sunk Costs, and the Evolution of Industry Structure. *Strategic Management Journal*, 24, pp. 1057–1068.
- Jose, A. & Lee, S. (2007) Environmental reporting of global corporations: A content analysis based on website disclosures. *Journal of Business Ethics*, 72(4), pp. 307-321.
- Kaplan, S. (2011) Research in cognition and strategy: Reflections on two decades of progress and a look to the future. *Journal of Management Studies*, 48(3), pp. 665–695.
- Keiner, M. (2006) Rethinking Sustainability—Editor's Introduction. In: Keiner, M., Bartlett, A., Daly, H., Marcuse, P., Camphis, M., Norberg-Hodge, H., Leisinger, K., Gorbachev, M., Meadows, D., von Weizsäcker, E., Wackernagel, M. & Atkisson, A. (2006) *The future of sustainability*, pp. 1-15.
- Kemp, V., Stark, A. & Tantram, J. (2004) *To Whose Profit?: Evolution - Building Sustainable Corporate Strategy*. WWF-UK.
- Korhonen, J. (2001) Regional industrial ecology: examples from regional economic systems of forest industry and energy supply in Finland. *Journal of Environmental Management* 63, pp. 367–375.
- Koskela, M. & Vehmas, J. (2012) Defining Eco-efficiency: A Case Study on the Finnish Forest Industry. *Business Strategy and the Environment* 21, pp. 546–566.
- Koskela, M. (2011) Expert views on environmental impacts and their measurement in the forest industry. *Journal of Cleaner Production* 19, pp. 1365-1376.
- Kuhlman, T. & Farrington, J. (2010) What is Sustainability? *Sustainability* 2010, 2, pp. 3436-3448.
- Labuschagne, C., Brent, A. & van Erck, R. (2005) Assessing the sustainability performances of industries. *Journal of Cleaner Production* 13, pp. 373-385.

Levy, O., Beechler, S., Taylor, S. & Boyacigiller, N. (2006) What We Talk About When We Talk About “Global Mindset”: Managerial Cognition in Multinational Corporations. Discussion Paper No. 44, Discussion Paper Series, APEC Study Center, Columbia University.

Linnakangas, J. (2010) Evolution of capabilities in the Finnish forest industry: A quantitative approach. In: Aalto University (2010) Capabilities and competitive advantage in the forest industry, Aalto University School of Science and Technology, Faculty of Information and natural sciences, Department of industrial engineering and management.

Linnenluecke, M. & Griffiths, A. (2010) Corporate sustainability and organizational culture. *Journal of World Business* 45, pp. 357–366.

Lozano, R. (2012) Towards better embedding sustainability into companies' systems: an analysis of voluntary corporate initiatives. *Journal of Cleaner Production* 25, pp. 14-26.

Lozano, R. (2013) Sustainability inter-linkages in reporting vindicated: a study of European companies. *Journal of Cleaner Production* 51, pp. 57-65.

Lozano, R. (2015) A Holistic Perspective on Corporate Sustainability Drivers. *Corporate Social Responsibility and Environmental Management* 22, pp. 32–44.

Madhavaram, S., Badrinarayanan, V. & Granot, E. (2011) Approaching global industrial marketing from a managerial cognition perspective: a theoretical framework. *Journal of Business & Industrial Marketing*, Vol. 26 Issue 7, pp. 532-541.

Maijanen, P. (2015) The evolution of dominant logic: 40 years of strategic framing in the Finnish Broadcasting Company, *Journal of Media Business Studies*, 12:3, pp.168-184.

Mäkelä, M. (2017) Trends in environmental performance reporting in the Finnish forest industry. *Journal of Cleaner Production* 142, pp. 1333-1346.

Manral, L. (2011) Managerial cognition as bases of innovation in organization. *Management Research Review* Vol. 34 No. 5, pp. 576-594.

Marcel, J. J., Barr, P. S., & Duhaime, I. M. (2010) The influence of executive cognition on competitive dynamics. *Strategic Management Journal*, 32(2), pp. 115–138.

Mebratu, D. (1998) Sustainability and sustainable development: historical and conceptual review. *Environmental Impact Assessment Review* 18, pp. 493–520.

Meehan, J. & Bryde, D. (2011) Sustainable Procurement Practice. *Business Strategy and the Environment* 20, pp. 94–106.

Mickwitz, P., Hildén, M., Seppälä, J. & Melanen, M. (2011) Sustainability through system transformation: lessons from Finnish efforts. *Journal of Cleaner Production* 19, pp. 1779-1787.

Mikkilä, M. & Toppinen, A. (2008) Corporate responsibility reporting by large pulp and paper companies. *Forest Policy and Economics* 10, pp. 500–506.

- Mikkilä, M. (2006) Vastuullisuuden monet kasvot: maailmanlaajuisen metsäteollisuuden hyväksyttävyyttä erilaisissa yhteiskunnissa. *Metsätieteen aikakauskirja* 3/2006.
- Mikkilä, M., Kolehmainen, O. & Pukkala T. (2005) Multi-attribute assessment of acceptability of operations in the pulp and paper industries. *Forest Policy and Economics* 7(2), pp. 227–243.
- Millar C., Hind P., Magala S. (2012) Sustainability and the need for change: organisational change and transformational vision. *Journal of Organizational Change Management*, Vol. 25 Issue 4, pp. 489-500.
- Murphy, K. (2012) The social pillar of sustainable development: a literature review and framework for policy analysis. *Sustainability: Science, Practice, & Policy*, Volume 8, Issue 1, pp. 15-29.
- Nadkarni, S., & Barr, P. S. (2008) Environmental context, managerial cognition, and strategic action: An integrated view. *Strategic Management Journal*, 29(13), pp. 1395–1427.
- Nidumolu, R., Prahalad, C.K. & Rangaswami, M.R. (2009) Why sustainability is now the key driver of innovation. *Harvard Business Review*, September 2009, pp. 57-64.
- Norman, W. & MacDonald, C. (2003) Getting to the Bottom of “Triple Bottom Line”. *Business Ethics Quarterly*, March 2003.
- Pakarinen, S., Mattila, T., Melanen, M., Nissinen, A. & Sokka, L. (2010) Sustainability and industrial symbiosis— The evolution of a Finnish forest industry complex. *Resources, Conservation and Recycling* 54, pp. 1393–1404.
- Pätäri, S., Tuppurä, A., Toppinen, A. & Korhonen, J. (2016) Global sustainability megafactors in shaping the future of the European pulp and paper industry towards a bioeconomy. *Forest Policy and Economics* 66, pp. 38–46.
- Patton, M. (2002) *Qualitative research & evaluation methods*, 3rd edition. Sage Publications.
- Perelet, R., Markandya, A., Mason, P. & Taylor, T. (2014) *Dictionary of Environmental Economics*.
- Porter, M. & van de Linde, C. (1995) Green and Competitive: Ending the Stalemate. *Harvard Business Review*.
- Prahalad, C. K. (2004) The blinders of dominant logic. *Long Range Planning*, 37(2), pp. 171–179.
- Prahalad, C. K., & Bettis, R. A. (1986) The dominant logic: A new linkage between diversity and performance. *Strategic Management Journal*, 7(6), pp. 485–501.
- Prahalad, C.K. (2004) Blinders of dominant logic. *Long Range Planning* 37 (2004) pp. 171–179.
- Redclift, M. (2005) Sustainable Development (1987–2005): An Oxymoron Comes of Age. *Sustainable Development* 13, pp. 212–227.

- Saez-Martinez, F., Lefebvre, G., Hernandez, J. & Clark, J. (2016) Drivers of sustainable cleaner production and sustainable energy options. *Journal of Cleaner Production* 138, pp. 1-7.
- Saltzman, O., Ionescu-Somers, A. & Steger, U. (2005) The Business Case for Corporate Sustainability: Literature Review and Research Options. *European Management Journal* Vol. 23, No. 1, pp. 27–36.
- Santini, C., Cavicchi, A. & Casini, L. (2013) Sustainability in the wine industry: key questions and research trends. *Agricultural and Food Economics*, 1:9.
- Sauvé, S., Bernard, S. & Sloan, P. (2016) Environmental sciences, sustainable development and circular economy: Alternative concepts for trans-disciplinary research. *Environmental Development* 17, 48–56.
- Shang, H., Huang, P. & Guo, Y. (2010) Managerial cognition: the sources of sustainable competitive advantage in hypercompetition: A case study. *Nankai Business Review International* Vol. 1 No. 4, pp. 444-459.
- Steurer, R., Langer, M., Konrad, A. & Martinuzzi, A. (2005) Corporations, Stakeholders and Sustainable Development I: A Theoretical Exploration of Business–Society Relations. *Journal of Business Ethics*, 61, pp. 263–281.
- Sutcliffe, K. & Huber, G. (1998) Firm and Industry as Determinants of Executive Perceptions of the Environment. – *Strategic Management Journal*, 19:8, pp. 793-807.
- Tikkanen, H., Lamberg, J-A., Parvinen, P. & Kallunki, J-P. (2005) Managerial cognition, action and the business model of the firm. *Journal of Management Decision*, 43/6.
- Toppinen, A. & Korhonen-Kurki, K. (2013) Global Reporting Initiative and social impact in managing corporate responsibility: a case study of three multinationals in the forest industry. *Business Ethics: A European Review*, Volume 22, Number 2.
- Tuomi, J. & Sarajärvi, A. (2002) Laadullinen tutkimus ja sisällönanalyysi. Tammi.
- Turner, G. (2008) A comparison of Limits to Growth with thirty years of reality. *Socio-economics and the Environment in Discussion*. CSIRO Working paper series 2008-09.
- Tuuva-Hongisto, S. & Timonen, P. (2011) Kuluttajien arvot ja unelmat ekologisten faktojen suodattajina. In: Donner-Amnell, J., Miina, S., Pykäläinen, J. & Tuuva-Hongisto, S. edit. (2011) *Maailma haastaa – metsä tulevaisuuden ratkaisuihin*, pp. 188-204. University of Eastern Finland.
- Vargo, S., & Lusch, R. (2004). Evolving to a new dominant logic for marketing. *Journal of Marketing*, 68(1), pp. 1-17.
- Vidal, N & Kozak, R. (2008) The recent evolution of corporate responsibility practices in the forestry sector. *International Forestry Review* Vol.10(1).
- Walsh, J. (1995) Managerial and organizational cognition: Notes from a trip down memory lane. *Organization Science*, 6(3), pp. 280–321.

Watson, R., Lind, M. & Haraldson, S. (2012) The emergence of sustainability as the new dominant logic: implications for information systems. Research paper. Thirty Third International Conference on Information Systems.

WCED World Commission on Environment and Development (1987) Report of the World Commission on Environment and Development: Our Common Future.