A systemic view on the impacts of regulating non-financial reporting

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1. Introduction

The last decades of the twentieth century and the beginning of the 21st century are characterized by increasing globalization. This increasing globalization is accompanied by societal developments and social-economic changes, such as the emergence of multinational organizations, a disconnection between production and consumption and an increasing complexity of the business environment (Wallage, 2011). At the same time, globalization has led to the exacerbation of ethical, economic, social and environmental issues. Although these issues already existed before the end of the twentieth century, globalization has led to an increasing amount of international regulations, certifications, trade policies and initiatives on human rights. The increasing attention on these issues, shows that society holds organizations accountable by claiming that organizations have social, environmental and economic impacts on society (Maas, 2009; Maas and Liket, 2012; Frías-Aceituno et al., 2013). Stakeholders want to have more insight in these impacts by means of more relevant non-financial information. For example, two thirds of the global institutional investors wants to consider the non-financial information in their investment decisions (WBCSD, 2014).

The social, environmental and economic impacts on society that can be both intended or unintended, positive or negative and short term or long term (Wainwright, 2002). Consequently, stakeholders such as consumers, media, governments and activists want to understand the way organizations deal with these ethical, environmental and social issues. They want organizations to be more accountable for their environmental and social effects (Maas, 2009). Therefore, organizations must provide their stakeholders with information on the organization's responsibility for the environment and society, or in other words, on their sustainability impact. This means that the traditional financial reporting is not sufficient anymore for the renewed need for information of stakeholders (Cheng et al., 2014; Kamp-Roelands, 2011; Wallage, 2011).

Consequently, during the last decades we have seen as rise in non-financial reporting[1]. The increased attention for transparency, accountability and true value are only a few of the trends that have stimulated organizations to develop and publish a non-financial report. Also different governments have created policies to stimulate or to mandate sustainability reporting by organizations in their jurisdictions (Van der Esch and Steurer, 2014). Stakeholders, including governments, have high expectations about the potential of the reporting process to lead to improved transparency and accountability as well as to internal change (European Commission, 2014; 2015).

[1] In this study we have a broad definition of non-financial reporting. With non-financial reporting we refer to all different types of non-financial, environmental and/or sustainability reporting or disclosure, such as a separate sustainability report, a combined annual and sustainability report or the most recent trend in non-financial reporting, an Integrated Report (IR). Consequently, we will use both the terms non-financial reporting as sustainability reporting.

Currently, the Dutch government plans to implement the EU directive for non-financial reporting. More specifically, the EU directive is to be transposed into national law by December 6th 2016. Consequently, in 2016 the Dutch government will require the compliance with this directive for all organizations with more than 500 employees. This directive is presented by the European Commission because they believe that there is a need to improve the disclosure of social and environmental information by organizations. It is assessed to increase transparency by increasing the quantity of available information. Moreover, the European Commission aims to increase the performance and the accountability of organizations, and to enhance the efficiency of capital markets (European Commission, 2013). These changes are deemed to result in final social, environmental and human rights impacts (performance).

However, it is not immediately clear whether the implementation of this mandatory regulation would lead to the desired effects. The language in the EU directive is clearly showing lack of supporting evidence (European Comission, 2013). Systematically depicting the theory of change behind non-financial reporting requires information on the process of (mandatory) non-financial reporting. Being explicit about the theory of change behind the implementation of this directive would help in monitoring its workings and effectiveness and to identify opportunities for improvement and design accompanying policies. Therefore, the research question of this report is as follows:

What is the Theory of Change (ToC) behind mandatory and voluntary non-financial reporting and what does this ToC tell us about the potential impacts of a mandatory regulation for non-financial reporting?

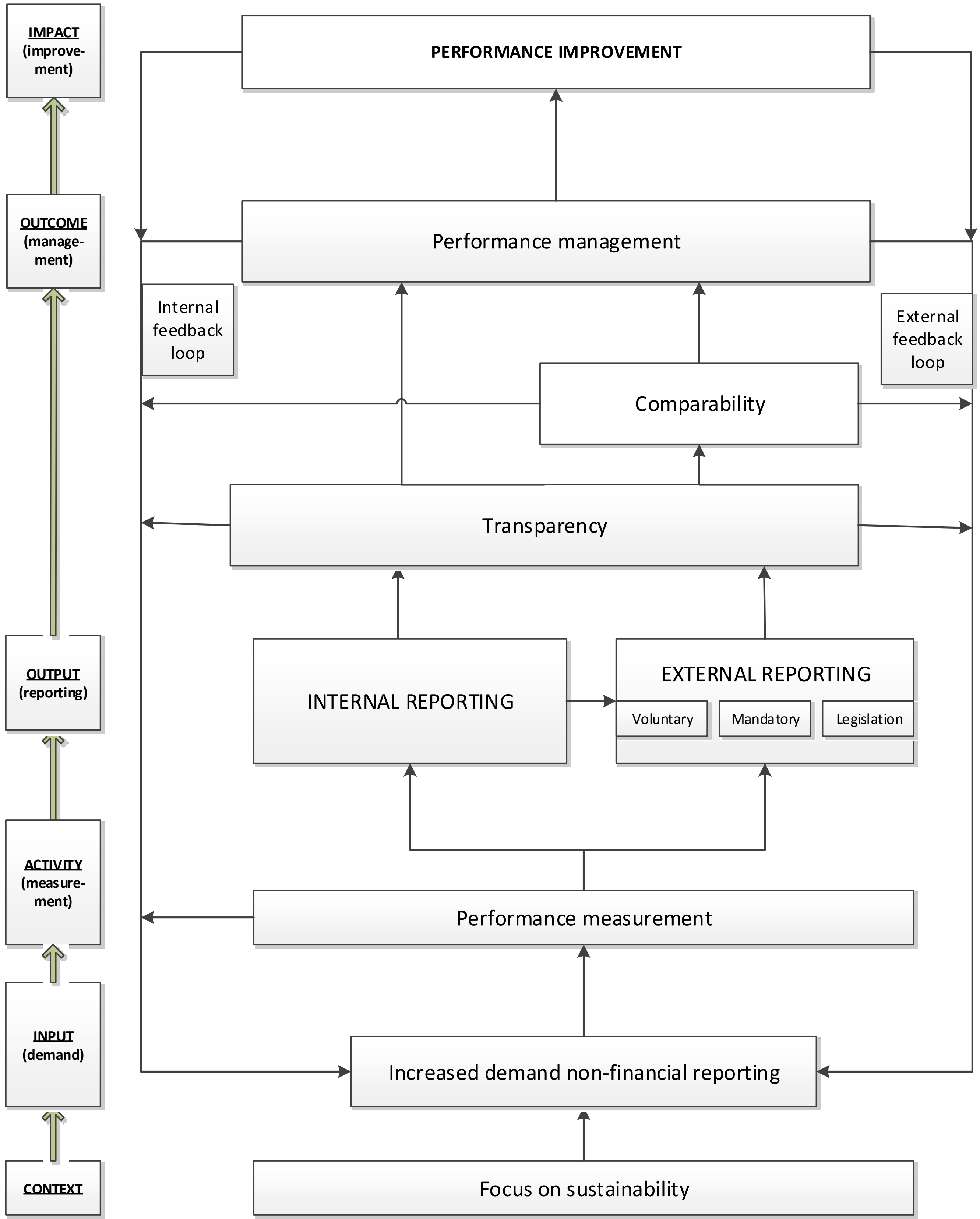
To answer this question, a simple visualisation of the Theory of Change (ToC) of non-financial reporting describing how actions lead to effects is provided in figure 1. The ToC runs from input to impact. This causal chain, also referred to as the 'impact value chain', distinguishes between the resources used for an action (*input*); the action itself (also referred to as *project* or *activity* or *intervention* or *program*); the immediate quantitative synthesis of the action (*output*); the direct changes in people, organizations, natural and physical environments, and social systems and institutions (*outcome*), along with highest order effects of the action (*impact*) (Clark, et al., 2004; Liket et al., 2014).

The ToC is hypothesis setting of the process and effects of non-financial reporting and is based on general expectations of policy makers and on the results of academic research. The ToC especially focuses on the activities, changes and performance by an organization. However, we would like to point out that some parts of the ToC are not focused on the organization. For instance, comparability may also be required by external stakeholders to compare organizations. Moreover, policy makers can use the ToC more generally as well. We included this, because it is very important that the implementation of a non-financial mandatory regulation should not only facilitate the natural interest of the organization, but the requirements of external stakeholders as well. The complete ToC is included in Annex I.

The ToC shows that it is expected that increased demand for non-financial reporting will lead to performance measurement or assessment of non-financial data that will be used for internal and/or external reporting purposes. External reporting might be obligated through legislation, might be mandatory in another way, or could be produced voluntarily. Reporting leads to more transparency and in specific circumstances to more comparability. Stakeholders, like customers or investors, might use the comparability to select a preferred organization which in turn could lead to differences in competitiveness and thereby in firm value. Comparability might also lead to internal strategy development in response to the non-financial data. This strategy might be translated in adapted management accounting and control systems to improve non-financial performance ultimately resulting in performance improvement.

This ToC intends to provide a systemic view of how non-financial reporting is expected to result in changes of impacts. It is largely built upon expectations and assumptions, as unfortunately the evidence base for this ToC is almost non-existent. This also implies that not much is clear on the sensitivities between each step: between every impact level (input – activity – output – outcome – impact), there can occur many risks, uncertainties, assumptions and unintended effects. This means that the activity of an organization may lead to specific consequences that are not explicitly aimed for by the organization. Chapters 2 and 3 will provide an overview of the limited evidence available. More research into the workings and effectiveness of the non-financial reporting process is clearly needed.

Figure 1 Theory of Change behind mandatory or voluntary non-financial reporting by organizations



2. Increased demand for non-financial reporting

2.1 The changing needs of stakeholders

Though critics and optimists may argue about the value of CSR, public interests in the effects and responsibilities of corporations is increasing. There is rising investor activism and interest in ethical issues (Berrone and Gomez-Mejia, 2009), changing regulations and introducing corporate governance codes concerning CSR. It is clear that stakeholders are asking for transparency, accountability and legitimacy of the orgnizations' activities. Many organizations are motivated by this increasing stakeholder pressure to focus on non-financial reporting. However, who are these stakeholders and what is their influence on non-financial reporting of organizations?

Guenther et al. (2015) defined the role of five stakeholder groups (government, general public, media, employees and customers) in firms' carbon disclosure. They concluded that all stakeholders are associated with carbon disclosure: all stakeholder groups are regarded as relevant stakeholders to whom the firms react by disclosing their climate change related effects. In other words, stakeholder pressure stimulates the organizations' attention towards non-financial reporting. However, Guenther et al (2015) also argued that of all stakeholder groups, only the government acts as a moderator for the relationship between carbon performance and carbon disclosure. This implies that the government has both direct and indirect influence on the organizations' carbon disclosure. For all other stakeholder groups, there is no relationship found between the increase in carbon disclosure and a changing carbon performance. This result implies that the government is the most influential stakeholder in climate change issues. Although the research of Guenther et al. (2015) only focuses on one aspect of non-financial performance, we used this relationship in our ToC because we expect that this relation is also valid for other non-financial issues. However, more empirical research is needed to validate this hypothesis.

There is an increasing need for information concerning CSR comprising information on organizational performance on the social, environmental and economic dimension. CSR implies that companies are accountable to their stakeholders, such as employees, customers and local communities (Deckop et al, 2006). Corporations thus need to approach their activities in a more strategic way and rethink the social impact of their activities (Maas and Liket, 2011; Leclair and Gordon, 2000; Williams and Barrett, 2000). CSR is able to become a strategic activity in two ways. Firstly, it is a strategic activity when the results of the measurement and monitoring of the added values are incorporated in management decisions (Maas, 2009). Secondly, it is strategic when it is integrated in the strategy of the organization. There are two types of CSR: 'Bolt-on' CSR and 'Built-in' CSR. Bolt-on CSR concerns engagement in socially beneficial initiatives. This type of CSR, is disconnected from the core business of the organization (Wolff and Barth, 2005). However, Built-in CSR integrates economic, environmental and social values in the business process of the organization: in constitutes and integral part of the business strategy (Grayson and Hodges, 2004). In addition, Built-in CSR makes production processes more sustainable, improves existing or creates new products, services or goods. Moreover, when an organization is accountable and transparent concerning the results of their Built-in CSR approach using non-financial reporting, this also influences an organizations' reputation and stakeholder satisfaction (Maas, 2009).

2.2 Performance Measurement/Assessment

For decades, organizations have reported on their financial results and clear and robust guidelines exist for financial reporting. Nowadays, there is an increasing focus on non-financial reporting. For example, sustainability reporting have become nowadays a listing requirement in non-OECD countries (GRI/KMPG/Centre for Corporate Governance in Africa, 2013). In line with this, it is no surprise that in the last two decades non-financial reporting practices have made enormous progress (Christofi et al., 2012). However, although the non-financial practices have made progress, in contrast to the financial reporting guidelines the non-financial guidelines are not comparable. A comparison between the different paths of financial and non-financial reporting would be very valuable to understand the process of non-financial reporting guideline development.

The economic crisis of 2009 has underscored that the behavior and the main principles of society have to change (King, 2011). Society (such as government, citizens, employees and other stakeholders) increasingly expect organizations to bear responsibility for the social and environmental impact of their activities (Ecless and Krzus, 2010; Maas, 2011). There is a need for corporate information and transparency concerning the social and environmental aspects of corporate behavior (García-Sánchez et al, 2013; Keeble et al, 2003; Gray et al, 1988). Next to that, organizations start to realize that transparency could have a positive effect on their business and leads to better reputation. Consequently, an increased number of organizations measure and report their non-financial performance. In most cases, the organizations that measure and report on non-financial information have a long term vision and take sustainability seriously (Eccles et al., 2012). Moreover, it is argued that sustainability reporting increases the awareness in organizations about their role in society (Kolk, 2004).

There are several reasons why sustainability reporting has received much attention from organizations, governments and agencies. Organizations operate in a multi-dimensional world, in which both financial and non-financial issues are important. Transparency became the key to 'doing well' (Eccles and Krzus, 2010). When an organization wants to create value in society, corporate reporting of Built-in CSR is necessary to reflect the reality.

Consequently, in order to make successful decisions, both investors and organizations need information about value drivers (Krzus, 2011). Non-financial reporting has its benefits. Non-financial reporting does not only contribute to stakeholder dialogues (GRI, 2002) and is not only a 'license to operate' (Kolk, 2004), it is a method of corporate branding as well (Lindgreen and Swaen, 2010). In addition, referring to a study of UNEP from 1998, Kolk (2004) argued that interviews with reporters and non-reporters show that sustainability reporting is expected to improve transparency, credibility and awareness (Kolk, 2004).

Although non-financial reporting has received much attention, the quality of non-financial information reported is neither always informative nor sufficient from a user perspective. While accountability, transparency and legitimacy of organization is becoming more important for both organizations and stakeholders, organizations do not always deliver the information stakeholders ask for. Consequently, there is a gap between the required information by stakeholders and the reported information by organizations (Eccles and Serafeim, 2011; Cheng et al., 2014; Kamp-Roelands, 2011; Wallage, 2011). An underlying reason for this is the lack of comparability between sustainability reports and the lack of third party verification. Increasingly, stakeholders are asking for comparable information. However, in general, organizations publish their non-financial information voluntarily. Due to the absence of mandatory framework, they can report their information in several forms. For example, there are several non-financial reporting standards (Kamp-Roelands, 2013), such as the Global Reporting Initiative's G4 Guidelines, UN Global Compact, OECD Guidelines for multinational organization, Carbon Disclosure Project (CDP) Ratings, Sustainability Accounting Standards Boards (SASB), International Integrated Reporting Council (IIRC) framework on Integrated Reporting and the German-European Deutsche Vereinigung für Finanzanalyse und Asset Management / European Federation of Financial Analysts Societies standard (DVFA/EFFAS). These guidelines have improved the quality of sustainability reports significantly (Lozano, 2013). However, due to the use of these different standards, the lack of comparability between sustainability reports is logically still present (Eccles and Saltzman, 2011). Moreover, the existing guidelines, except GRI G4, do not consider "*the importance of the interlinkages and synergies among the different indicators and dimensions"* (Lozano, 2013,p. 57). According to Lozano (2013), there is a lack of inclusion of business and sustainability in the current guidelines. This means that in the current guidelines it is not explained well how sustainability is integrated in business strategy and practices. Moreover, comparability is also still seen as a problem when looking at non-financial reports. Therefore, to address those limitations a more systematic approach is needed in the guidelines. This means that a guideline should stimulate organizations to think holistically about their strategy and plans, make informed decisions and manage key risks to build investor and stakeholder confidence and improve future performance. Although this is not completely developed yet, different organizations are working on including this systematic approach in the guideline (such as IIRC and GRI). Another challenge concerning the current non-financial reporting guidelines is to know which of the many environmental, social and governance (ESG) indicators are most important for an organization in terms of creating value for stakeholders and shareholders. Therefore, Eccles et al. (2012) claim that reporting standards must be developed on a sector-by-sector basis. On the one hand, this will make it possible to make better comparisons within a sector, though at the cost of inter-sectoral comparability. A contra-argument for this claim is that this approach does not provide the opportunity to monitor material issues. While material issues can differ from organization to organization and are not bounded by sector.

Summarized, the existence of these different non-financial reporting standards (Cheng et al., 2014; Eccles and Saltzman, 2011) and the lack of a systematic approach of the guidelines (Lozano, 2013) is thus seen as the cause of the lack of comparability of non-financial information.

2.3 Variety of non-financial reporting

As previously mentioned, there is a great variety of non-financial reporting standards (Kamp-Roelands, 2013).[2] Moreover, there is a great variety of motives for non-financial reporting as well. Non-financial reporting can be valuable for both internal use and external use. Internally it will help organizations to reconsider their management decisions and (sustainability) strategy. Externally, it helps organizations to meet the requirements external stakeholders have of an organization. Organizations can use a separate sustainability report in order to be transparent and accountable about their sustainable activities to their stakeholders. However, they can also simply adapt a single paragraph (with narrative character or with data) in their annual report as well. Research showed that an annual report in accordance with GRI guidelines is often used; Ramos et al. (2013) concluded that 63% of the organizations in their Portuguese sample published an annual report in accordance with GRI guidelines. WBCSD (2015) concluded that 88% of their members use the GRI guidelines. Moreover, organizations can combine the sustainability and the annual report. Finally, another option is to fully integrate the financial and sustainability information in one integrated report (Hubbard, 2009).

In line with the variety of sustainability reports, different standards exist providing guidelines on how to report (1) outputs (e.g. GRI,), (2) processes (e.g. Greenhouse Gas Protocol), and (3) impacts (e.g. true value reporting,). The existence and use of these different standards, goes at the cost of a lack of comparability between sustainability reports (Eccles and Saltzman, 2011). Moreover, although research of WBCSD (2014) showed that 71% of their members improved the overall score of their report between 2013 and 2014, the reported

[2] The ToC in figure 1 is framed based on the literature review. Because the different non-financial reporting standards differ from each other (for example, some guidelines focus more on specific information, there is a possibility of slightly different ToC between the different guidelines. However, based on the literature review we believe that the ToC of the different guidelines is more or less the same, because the process of non-financial reporting is quite similar for every non-financial reporting standard.

non-financial information is still often presented in a disconnected way. Its relationship to strategy, risks and opportunities, operations, and financial performance is unclear (IFAC, 2012). In addition, the content of current sustainability reports often lack materiality[3] and can be incomplete and selective (Wensen et al, 2011). A focus on materiality implies limiting the information presented, and reducing the number of metrics common across all organizations.This can lead to a decrease of comparability of the report. Consequently, a non-financial reporting standard that would focus on both comparability and on the inclusion of materiality issues, would address several needs and requirements of different stakeholders.

As a result, despite developments in sustainability reporting, organizations are still flooded with questionnaires of rating agencies, investors and benchmark agencies. Different parties such as researchers (Krzus, 2011; Mammatt, 2009; Frías-Aceituno et al, 2012; Elkington and Reenaut, 2010; Eccles and Saltzman, 2011; Eccles and Krzus, 2010), companies (NovoNordisk, 2008; Philips, 2010; DSM, 2012), audit firms (KPMG, 2012, 2013; Ernst & Young, 2012; PWC, 2011) and interest groups (IIRC, 2013; GRI, 2011) thus aim for the use of a single standardized report which combines the reporting of both financial, social and environmental performance. All these various parties confirm the presence of a gap in the sustainability information requested by stakeholders and sustainability information provided by organizations (Eccles and Serafeim, 2011). Consequently, currently there is an increasing attention of both academics and practitioners to an integrated report (IR)[4]. IR is the new trend in the area of non-financial reporting. IR focuses on the integration of financial and non-financial information.

2.4 Mandatory or voluntary?

In the last decades, there were many changing regulations concerning CSR practice of organizations (Wallage, 2011). As previously mentioned, there is a trend of increasing non-financial reporting, in both developing and developed countries. This trend is applicable for private-regulation (voluntary), civil regulation[5] (mandatory), and government regulation (legislation).[6] Where non-financial reporting started as a voluntary activity, currently there is

[3] Materiality refers to the importance and the usefulness of a report. Material issues are those issues that substantively impact, or have the potential to substantively impact the company's strategy and its ability to create value over the short, medium and long term.
[4] IR concerns '*the interconnections between a firms' strategy, governance, performance and prospects, as well as the contexts within which it operates*' (Frías-Aceituno et al, 2013: p. 45). White has described the phenomenon as '*the mesh between financial reporting (FR) and sustainability reporting (SR)*' (White, 2010: p. 29), and Wallage has argued that IR assumes '*a strategy and business operations that is focussed on value creation of stakeholders'* (2011, p. 548).
[5] Civil regulations can be referred to as codes of conduct for business
[6] In the literature review, we did not find any differences between the effects and consequences of mandatory regulations, sector agreements and legislation. Therefore, we assume that these different types of formal commitment will lead to the same impacts and consequences. Consequently, in our research we will only use the term 'mandatory' versus voluntary reporting. We will exclude concepts such as legislation and sector agreements.

a shift from voluntary regulation to public policy and governmental regulation (Maguire, 2012; WBCSD, 2014; UNEP/GRI/KMPG/Centre for Corporate Governance in Africa, 2013). Moreover, Maguire (2012) argued that voluntary reporting is a well established trend *"prior to the implementation of state-mandated reporting guidelines*" (p.8). In other words, mandatory regulation is a consequence of the voluntary attempts to report on non-financial indicators. Nowadays, both types of reporting exists next to each other, although regulatory pressure is increasingly seen as the instrument to improve CSR issues. Currently, a number of policies have a 'report or explain' approach, however the new EU Directive does not appear to do so and to straightforwardly require reporting from a specific set of organizations. Moreover, it is argued that roughly two thirds of the national reporting standards (in a selected sample of 30 countries with 140 national reporting standards in total) are mandatory (Habek and Wolniak, 2013). Research shows that this is explainable, as the United Nations have asked governments to stimulate sustainability reporting by smart regulation and by developing best practices (GRI/KMPG/Centre for Corporate Governance in Africa , 2013).The results of Habek and Wolniak (2013) are in line with the research report of UNEP/GRI/KMPG/Centre for Corporate Governance in Africa (2013), which concluded that in 2006, 42% of the reporting policies were voluntary. 58% percent of the policies were mandatory. The percentage of mandatory policies increased highly in 2013, to 72% percent. In this year, only 28% of the policies was voluntary. According to UNEP/GRI/KMPG/Centre for Corporate Governance in Africa (2013), this increase in mandatory policies is caused by the increasing belief of governments that transparency about sustainability issues would lead to benefits, such as stable markets and faster progress by organizations. Moreover, this shift shows that governments are increasingly concerned with sustainability developments. This is also in line with World Business Council for Sustainable Development (WBCSD), who argued that *"more regulations can be expected as progressive businesses, governments and international standards setters acknowledge the role of corporate transparency in the transition to an inclusive and sustainable economy"* (WBCSD, 2014, p. 9).

Although there is a trend towards mandatory non-financial reporting, the positive effects of non-financial reporting are hampered by the differences in interpretation and use of the existing guidelines. Moreover, a more proactive non-financial report such as an IR, is still voluntary in almost all of the countries (although there is a trend to a 'report or explain' principle. This means that if organizations decide not to publish an IR, they have to explain why). While there is some knowledge about assumed reasons for and assumed reasons against voluntary or mandatory non-financial reporting (see for an overview of reasons table 1), knowledge about the real effects and impacts of both types of reporting is limited. Mandatory reporting seems to be intended for organizations to better account for their impacts on public goods and externalities, while voluntary reporting may be more oriented towards organizational benefits. However, it is difficult to validate these assumptions, as the impact of voluntary and mandatory non-financial reporting is a relatively new research topic and only limited evidence exists.

Table 1 Reasons for and against voluntary and mandatory approaches to sustainability reporting. Source: KPMG, United Nations Environment Programme, Global Reporting Initiative, University of Stellenbosch (2010), cited by Habek and Wolniak, 2013

Approaches to reporting	Reasons for	Reasons against
Voluntary	Flexibility	Conflicts of interest
	Proximity	Inadequate sanctions
	Compliance (isomorphism)	Under-enforcement
	Collective interest of industry	Global competition
		Insufficient resources
Mandatory	Changing the corporate culture – leaders will continue to innovate above minimum requirements	Knowledge gap between regulators and industry
	Incompleteness of voluntary reports	One size does not fit all
	Comparability	Inflexibility in the face of change and complexity
	Non-reporting of negative performance (negative externalities)	Lack of incentive for innovation
	Legal certainty	Constraints on efficiency and competitiveness
	Market failures – theory of regulations	
	Reduction of non-diversifiable market risking free rider problems	
	Cost savings[7][8]	
	Standardisation / Level-playing-field	
	Equal treatment of investors	

There are many arguments for and against mandatory and voluntary non-financial reporting (see table 1). Organizations that report non-financial information all face challenges, whether the reporting is voluntary or mandatory. In both cases, different issues hamper the effectiveness of non-financial reporting. For example, organizations that report non-financial information voluntarily can choose different time periods in which to report (e.g. quarterly, annually, biannually). Moreover, they can choose to report on variety of different key indicators (within the same industry), to report in different formats (Habek and Wolniak, 2013) or to report with or without taking supply-chain responsibility. On the other hand,

[7] Isomorphism is the phenomenon that organizations adopt similar structures, strategies and processes (Deephouse, 1996). This implies that organizations decide to report non-financial information because other organizations do so as well.

[8] According to Habek and Wolniak, 2013, p. 41: *"In some cases companies with passive or indifferent corporate environmental strategies will focus on reducing their reporting costs in order to meet the regulatory requirements by neglecting the quality of data and information in their information management procedures*."

organizations that are stimulated by mandatory regulations to report non-financial information can tend to meet minimum requirements (compliance). By doing so, organizations can try to reduce their reporting costs by 'ticking the box' instead of collecting and reporting on the most material issues. This risks that organizations neglect the quality of the data and information reported and do not include the information in the information management procedures (Habek and Wolniak, 2013). Consequently, it is argued that without proper monitoring and enforcement, mandatory reporting "*could be rendered meaningless and result in a waste of time and resources for all parties"* (Habek and Wolniak, 2013, p. 41).

Research showed that the effectiveness of mandatory regulations for reporting differs per social and environmental context. Based on a difference-in-difference analysis of panel country level data of four countries (China, Denmark, Malaysia and South Africa), Ioannou and Serafeim (2014) concluded that in countries with severe social and environmental challenges, mandatory disclosure regulations will lead to increased disclosure and consequently, to an increased comparability and credibility of reported information. Moreover, it seems that increase in disclosure driven by regulation is associated with increased firm valuations as reflected in Tobin's Q[9] (Ioannou and Serafeim, 2014). They also concluded that in countries with relatively less severe social and environmental challenges, mandatory disclosure regulations does not lead to an increase in disclosure. In these countries, *"even in the absence of a regulation that mandates the adoption of assurance or specific guidelines, organizations seek the qualitative properties of comparability and credibility"* (Ioannou and Serafeim, 2014, p. 1). Next to the increased firm valuation found by Ioannou and Serafeim (2014), Grewal et al. (2015) found other arguments for benefits of mandatory regulation. Based on a quantitative cross section analysis of 12,152 organizations from Bloomberg's 2014 population, he concluded that investors expect that organizations with strong non-financial disclosure and performance will enjoy net benefits, such as positive abnormal stock returns (Grewal et al., 2015).

Also Guenther et al. (2015) found evidence that mandatory non-financial disclosure regulations have positive effects. Based on quantitative analysis of 1120 organizations that are in the Global500, S&P500 and HTSE350, they showed that the government is the most important stakeholder influencing the relationship between carbon disclosure and carbon performance. They argued that governments have direct and indirect influence on organizations' carbon reporting, but also concluded that the context of a country is determinative as well. They found that in countries with strong GHG politics, there is a stronger relationship between carbon disclosure and carbon performance. In other words, the GHG policy influences the relation between carbon disclosure and carbon performance. Although these results are only applicable for climate change issues, it provides evidence that mandatory disclosure regulations can work in different contexts and different sectors. Grewal

[9] The Tobin's Q ratio is calculated as the market value of an organization divided by the total asset value.

et al. (2015) also argued that mandatory disclose programs force organizations to improve their operating performance, referring to Delmas et al. (2010) and Bennear and Olmstead (2008). Based on quantitative, empirical analysis of monthly firm-level fuel mix and program data from 145 of the largest investor-owned electric utility organizations in the US for the period 1995-200, Delmas et al. (2010) concluded that mandatory disclosure programs can lead to improved operating performance related to the environment, although they are subject to unintended consequences. For example, they conclude that these mandatory programs make 'clean' firms cleaner, however, 'dirty' firms are left relatively unchanged (Delmas et al., 2010). Moreover, Bennear and Olmstead (2008) found, based on a difference-in-differences analysis of data from 517 water suppliers in the US, this improved operating performance in relation to drinking water quality.

In addition, also Christensen et al. (2015) found a decrease of 11 percent in both mining-related citations and injuries after the introduction of mandatory, non-financial reporting in financial statements in the US. Moreover, they concluded that it also leads to an increased awareness of safety issues among investors. In line with this, Barbu et al. (2014) also analysed the effect of mandatory environmental reporting by publicly listed companies in the UK, France and Germany, complying with IFRS. They concluded that firms in countries with constraining environmental disclosure regulations are more likely to report on environmental issues than firms in countries with weaker constraining regulations. They refer to the fact that compliance with non-financial requirements may differ across countries, as a consequence of the differences in national reporting regulations. This result also support the conclusion of Guenther et al. (2015), that governments play an important role for the effectiveness of non-financial disclosure.

Moreover, Jeffrey and Perkins (2014) also advocate the importance of mandatory regulations. According to them, voluntary reporting will lead to incomplete disclosures that makes it almost impossible for stakeholders to evaluate the non-financial information disclosed. Based on a qualitative literature review, they concluded that when CSR reporting is mandated comparability and reliability of information would be enhanced (Jeffrey and Perkins, 2014). In addition, also Deloitte and MVO Nederland (2015) argued in a recently published research report that legislation as external pressure is very important for organizations to reach impact, as external pressure works better than internal pressure. However, the mandatory regulation of non-financial reporting is associated with a shift in responsibility for both government and organizations (Jeffrey and Perkins, 2014). As a consequence of the implementation of mandatory regulations, organizations have more responsibility their actions; they have to be increasingly transparent about the way they deal with important (sustainability) issues. As previously mentioned, stakeholders expect organizations to be transparent. Therefore, a mandatory regulation must contain an approach towards self-responsibility to guide them and assist them in creating commitments based on reporting. As Führ and Bizer (2007) argued, organizations "*are obliged by law to align their* *behavior in a certain direction. At the same time they often have considerable freedom in choosing how to fulfill these obligations. This poses a challenge to companies: they cannot simply meet specific limit values and consider all obligations met, but instead must develop an understanding of general normative requirements and their consequences for their action. Companies no longer satisfy the law by complying with minimum standards, but by outlining proactive behaviour in reaction to basic normative requirements. Self responsibility requires a radical change in the self-perception of companies*" (p. 329).

Furthermore, in 2011 a study on the effects of the legal requirements for reporting on CSR in the Danish Financial Statement Act was conducted (Danish Business Authority (2011).). In Denmark the legal requirement of non-financial information is quite new as well. The requirement of the Danish government was implemented in 2008. Based on a survey, the report concluded that within three years after the implementation the number of organizations that did not comply with the legal requirements decreases significantly. In other words, within three years after the implementation, comparability has increased. Moreover, the survey shows that after three years, an increasing number of organizations have reported on policies, execution and results. They have become better at translating the non-financial policies into action. Moreover, more organizations were able to evaluate the results achieved (Danish Business Authority (2011).

In contrast, there are also academics who found negative influences of mandatory non-financial disclosure regulation. Next to the positive influences found by Christensen et al (2015), they also found that productivity of firms decline after mandatory, non-financial disclosures. Next to this, Kalkanci et al (2012) showed that mandatory, non-financial disclosure miss its goal and even can lead to higher negative social and environmental impacts. They argued that "*hoping to use transparency to motivate firms to reduce the social and environmental impacts associated with their products, governments have started to mandate disclosure of those impacts*" (Kalkanci et al., 2012, p. 1). However, Kalkanci et al. (2012) found evidence that such a mandate to disclose information on social and environmental impacts of a supply chain *deter* organizations from measuring and improving these impacts, because it reduces its expected gain in market share. Moreover, Kalkanci et al (2012) concluded that managers are afraid that their disclosed impacts are negative, resulting in a decreasing investor valuation. Instead, they argued that voluntary disclosure can boost the market share of an organization.

Critics argue that mandatory regulation will lead to PR, green washing or a form of self-interests. Others are questioning whether mandatory regulation indeed helps to improve the quality of the reports, as the existence of many different guidelines and reporting frameworks can lead to a lack of focus (Deloitte and MVO Nederland, 2015). When organizations do integrate their non-financial performance in their report because of compliance reasons, but do not integrate them in their management decisions, reporting on sustainability issues would not have much value for society (Frankental, 2001; Keim, 1978;

Margolish and Walsh, 2003) or business (Friedman, 1970; Vance, 1975). However, it is also claimed that next to the compliance tendencies as a consequence of mandatory non-financial reporting, voluntary non-financial reporting is prone to interpretation and greenwashing tendencies as well (Hahn and Lülfs, 2014). On the other hand, Camisón (2010) argued that voluntary policies[10] were the most stimulating for the adoption of proactive environmental practices. As Camisón (2010) pointed out, voluntary policies stimulated *"especially those more innovative practices that may even extend beyond regulation*" (p. 346). These stimulated innovative practices have positive consequences, as "*the adoption of more advance environmental innovations by firms submitted to auto-regulation allowed both a superior improvement and a higher level of environmental performance*" (p. 346). These results suggest that in some contexts voluntary reporting would lead to higher standards then mandatory reporting for leading frontrunners. However, for laggards a mandatory regulation will be helpful to stimulate them to think about their impacts on non-financial issues.

In summary, research has shown both positive and negative effects of mandatory and voluntary non-financial reporting. Based on the limited academic research available, most research found a positive influence of mandatory regulation on the organization (Delmas et al., 2010; Bennear and Olmstead, 2008; Guenther et al., 2015; Christensen et al., 2015; Ioannou and Serafeim, 2014; Grewal et al., 2015; Jeffrey and Perkins, 2014; Barbu et al., 2014; Kalkanci et al., 2012; Danish Business Authority, 2011). However, because of the different outcomes of the different research and the proclamations of the critics of mandatory non-financial regulation, it is difficult to provide an answer on the question whether the implementation of mandatory non-financial regulation would be effective. Based on the existing literature we cannot draw one general conclusion, as it depends on the goal intended to achieve. Much depends on the different social, environmental, economic and regulatory contexts and on the proactive and reactive players in the field.

[10] Voluntary policies are voluntary agreements (both individually and cooperative) of an organization with an application of policies. Organizations are provided with positive incentives, such as tax and financial advantages and public contracts (Camisón, 2010).

3 From reporting to performance improvement

3.1 Advantage of non-financial reporting

The essence of non-financial reporting is beyond reporting. Non-financial reporting is more about creating benefits for the organization and its stakeholders. In a non-financial report, financial, non-financial, environmental and social performance can be gathered onto a common platform (Abeysekera, 2013; Eccles and Saltzman, 2011). Because sustainability reporting is claimed to be able to relate the reported information to business strategy, it is more a matter of management than reporting (Mammatt, 2009). Consequently, it does not only give an explanation of the achieved non-financial performance (Eccles and Saltzman, 2011), it also takes into account the future value for the organization and the stakeholders (Adams, 2015). This is important to investors, as a recent publication of WBCSD argued that two thirds of the global institutional investors wants to consider the non-financial information in their investment decisions (WBCSD, 2014). This means that based on the non-financial information provided by the organization, investors wants to decide whether they still want to invest in this organization.

Investors with over $59 trillion in assets under management around the world have pledged to follow the UN Principles for Responsible Investment (PRI), requiring among other things that they incorporate environmental, social, and governance issues into their investment analysis and decision making and that they are active owners individually and collectively regarding these goals (PRI, 2015). An important premise behind the push for environmental and social issues to be integrated into the investing process is that these issues may pose substantial risks to individual organizations and the ongoing health of economies and society at large. Such concerns may cause institutional investors, who own and will continue to own a large fraction of world equities, to compel managers to lessen these risks.

While statements by institutional investors may generate press coverage, there are also strong arguments for why these investors, in aggregate, might not drive organizations to improve their environmental and social (E&S) commitments (Dyck et al., 2015). Even if investors perceive benefits of E&S commitments, it is difficult to share the costs of active engagement, and the resulting free rider problem limits actual engagement. Investors may also be engaging in cheap talk and not follow pledges with actions. If investors perceive firms' E&S commitments as potentially reducing risk-adjusted financial return, then investment managers—who are typically judged on financial returns only—as well as the institutional owners themselves—who have fiduciary duties to focus on financial returns—would be justified in just paying lip service. Further, where disagreement amongst institutional investors exists about the importance of E&S, managers will be less likely to respond to those investors pushing for E&S changes (Dyck et al., 2015)

It is also argued that sustainability reporting can create more benefits for organizations, such as an increased stakeholder engagement (Krzus, 2011; Eccles and Krzus, 2010; Eccles and Saltzman, 2011). This is important as the success and the value of an organization depend on its relationship with stakeholders (Cai et al, 2011). Many organizations are aware of this potential benefit of non-financial reporting. Moreover, an increasing number of organizations is publishing a sustainability report (Deloitte and MVO Nederland, 2015; Junior et al., 2014). However, the information reported by organizations is no longer sufficient for its stakeholders. By satisfying it stakeholders, through an increased focus on social and environmental reporting, an organization improves its chance of success (García-Sánchez, 2013). Moreover, because a focus on sustainability reporting enables organizations to gather their economic, social and environmental performance, stakeholders benefit from more relevant and understandable information that positively influences decision making (IIRC, 2012; Eccles and Krzus, 2010; Krzus, 2011; García-Sánchez et al, 2013; Prado- Lorenzo and García-Sánchez, 2010; WBCSD, 2014).

A focus on non-financial reporting by the organization also improves the access, transparency and quality of reported information (IIRC, 2012; Black Sun, 2012; Elkington and Renaut, 2010). As a consequence, this understandable and transparent information stimulates the dialogue with stakeholders. Organizations thus have the ability to better manage reputational and organizational risks (Eccles and Saltzman, 2011; Krzus, 2011; Garcia- Sanchez et al, 2013). Moreover, the information helps organizations to understand the value they create (Black Sun, 2012) , the process of this value creation (Deloitte and MVO Nederland, 2015) and the structure of the organization, which is essential for the accession of new markets (OECD, 2009). It furthermore provides information about the impact of the organization and its relation with different forms of capital (IIRC, 2011). In addition, as previously mentioned , there is evidence that non-financial reporting has positive links with (operating) performance. For example, Churet and Eccles (2014) found a strong relationship that ESG management contribute to the financial performance of an organization. However, in general there is only little evidence for the relation between business performance and non-financial reporting. In line with Guenther et al. (2015) there is evidence for *some aspects* that link to performance (such as waste or carbon emission). However, as causality is hard to demonstrate because of the many factors influencing performance and even though most organizations do measure the "*financial impact of non-financial information*" (Deloitte and MVO Nederland, 2015, p. 49), it is a challenge to make a direct link between reporting and performance (Deloitte and MVO Nederland, 2015). Therefore, more academic research is needed.

Summarized, sustainability reporting leads to transparency of all these corporate aspects. If transparency also leads to more comparability, which is not always the case (for example due to the use of a diverse set of reporting guidelines and frameworks), it is able to positively influence the competitive position of an organization. However, it can also negatively influence the competitive position of an organization when an organization ends up comparing poorly. For example, comparability of the organization influences the funding considerations of banks. When a bank has information on the strengths and weaknesses of an organization, the risks for the bank will be reduced and consequently, the bank will reduce the funding costs for the organization (Eccles and Krzus, 2010). However, as Deloitte and MVO Nederland (2015) argued, we should not overestimate the possible relation of non-financial reporting with performance. "*The report is just a final product. The real change and possible link with performance will always come through changes in the core process",* Deloitte and MVO Nederland (2015; p. 49) concluded. Embedding the strategic thinking in order to come to these changes in the core process is a phased process, which means that the link between reporting and performance should occur over time as well (Deloitte and MVO Nederland, 2015).

3.2 Doubts and shortcomings of non-financial reporting

Most literature focus on the advantages of sustainability reporting for organizations and society. However, also some attention is paid to the disadvantages and shortcomings. Previous research (NEMACC, 2013) has shown that organizations face difficulties when they try to shape solid sustainability reporting, because there are no clear guidelines (Eccles et al., 2012). Moreover, the existing guidelines are often lacking the link between business strategy and sustainability issues and practices (Lozano, 2013). Organizations expect a cost increase or think that non-financial reporting negatively influences the competitive sensitivity of the reported information. As a consequence, organizations think that sustainability reporting is mainly valuable for internal use (NEMACC, 2013). Although this statement is not proven by academic research, the presence of this myth can be seen as an obstacle. Moreover, there is no empirical research available proving that sustainability really results in shared value (positive effects for society and the organization). Critics claim that sustainability reporting can only be successful when organizations create new awareness and commitments, and consequently, create new business models. This should be accompanied by a new mind set of managers: they cannot focus only on profit maximisation anymore. This new mind set is only possible when sustainability reporting generates a high degree of dissonance to the manager (Adams, 2015). Without a new mind set and without the integration of non-financial values in the thinking and decision making of the organization, the organization cannot take any advantage of it. In other words, the success of sustainability reporting depends on several assumptions and the chance of success is therefore uncertain. Reporting does not necessarily lead to performance improvement and change.

Moreover, Adams (2015) argued that some executives do not see the potential value of sustainability reporting. It is not an exception that CFOs do not see environmental and sustainable initiatives as a benefit or moral obligation, but as an unnecessary cost item (Adams, 2015). Moreover, some critics doubt the testability and usability of the information (Kieft, 2013). For example, does the organization report on important performance indicators? Are they publishing competitively sensitive information? Are the sizeable reports being read frequently? Also, opponents of non-financial reporting do not believe that the different types of sustainability reporting create a clear image of the role of the organization in long-term value creation for society, stakeholders and organizations (Massie, 2010). The benefit an organization will have from reporting depends on the level of strategic application as well on the technical application of the existing reporting guidelines. In alignment with this, Flower (2015) argued that despite all development in the area of sustainability reporting, the reports of organizations still do not cover all sustainability issues of the organization. According to GRI, (cited by Flower, 2015,p. 4), a non-financial report should cover "*the improvement or deterioration of economic, social and environmental conditions"*. As previously research showed (e.g. Lozano, 2013), the integration between business and sustainability is often lacking. Moreover, it does not clarify all impacts of business activities.

3.3 Effectiveness of non-financial reporting

Despite the growing interest in non-financial reporting by society, government and organizations and the increasing non-financial reporting practices by organizations, the report is only a final product. What matters most, are the consequences of these reports and the question whether the intended goals that are associated with non-financial reporting are achieved. In other words, it is very important that organizations are aware about the effectiveness of non-financial reporting. With effectiveness, we refer to the degree to which objectives are achieved an the extent to which targeted problems are solved.

Effectiveness of non-financial reporting can take place when the information provided is useful for stakeholders. Stakeholders are increasingly interested in supply chain CSR issues (Markley and Davis, 2007). Therefore, it would be valuable for organizations to include information about the supply chain in their reporting. As Maloni and Brown (2006) argued, including information about value chain CSR issues has many benefits for an organization. This view is shared by Markley and Davis (2007), who argued that *"ignoring supply chain CSR issues may actually present organizations with a greater risk indicating that it is not only an industry's ethical responsibility, but also in their financial best interest to proactively prepare a comprehensive strategy for supply chain CSR"* (Markley and Davis, 2007, p. 767). Moreover, it is argued that supply chain management can be seen as a source of competitive advantage (Mason-Jones and Towill, 1997; Maloni and Brown, 2006). Therefore, it is recommended that organizations report on their supply chain CSR issues. As a consequence, a mandatory reporting guideline should include a focus on supply chain CSR standards.

Despite the changed information need of stakeholders and the increased transparency of organization related to non-financial information, research also showed that investors have neither rewarded nor penalized organizations for adhering to or violating matters[11] in their corporate decisions (Christofi et al., 2012). The engagement of the investor community with non-financial reporting can be improved (Perego et al., 2016; Cheng et al.,2014). For example, despite the fact that Shell regularly received negative publicity, it is still a very interesting organization to invest in. Moreover, a more recent example is the fraud of Volkswagen with the CO_2 emissions of some cars. Despite this scandal, it is very difficult for investors to step out of an organization: once you are out, you cannot easily step in again. This implies that – despite the trend towards mandatory non-financial reporting – some stakeholders find it difficult to react on the lack of integration of non-financial information in the organizations' management decisions. However, next to being transparent concerning non-financial issues for the stakeholders, it is important for organizations to learn from their past experience. As long as organizations do not integrate non-financial issues and business, it is not possible to learn from past experience. Moreover, we expect that when the integration of business and sustainability does not take place, in many cases non-financial reporting will stay a matter of PR and greenwashing.

The research of Ramos et al. (2013) showed that organizations need to be more engaged with both the performance management as well as the reporting on sustainability issues, as he concluded that all enterprises of his sample show a poor environmental management, environmental performance and sustainability reporting profile. Therefore, it is very important to make organizations and its stakeholders aware of the importance to integrate the information on non-financial issues in performance management. For example, in 2012 about 40% of the largest US firms included CSR targets in their bonus system (Maas, 2015). In the Netherlands organizations like DSM and Akzo Nobel use CSR targets in their remuneration systems (Kolk and Perego, 2014). This can be reached by means of specific drivers, such as environmental education (Ramos et al.,2013). Using the non-financial information for internal goals, such as management, is very valuable for organizations as the focus of rating agencies shows that investors value sustainability management programs rather than absolute sustainability performance (McLaughin et al., 2015). As long as organizations do not integrate their non-financial information in management decisions, and do not use and learn from their non-financial reported information, non-financial reporting cannot be fully effective – whether it is mandatory or voluntary. However, when organizations use the non-financial information published in their reports to integrate in their management decisions, it can lead to sustainable value for society, ecosystems and business.

[11] Examples of violating matters are environmental and social violations, such as the violations of human rights, or violations of voluntary target setting (e.g. CO2 reduction in a specific year).

In addition, the non-financial, sustainable information in the reports can become a source of innovation (Porter and Kramer, 2006; Husted and Salazar, 2006; Hart and Milstein, 2003). Regulation can optimize these outcomes, in this case a regulation standard should not only focus on outcome indicators, but on process information as well.

As long as the existing guidelines for non-financial reporting contain weaknesses (e.g. unclear guidelines, not comparable, not sector specific and do not integrate business and sustainability), as long as there is lack of professionalism in the organization to use and implement the guidelines in a proper way, organizations and society cannot benefit from all potential advantages associated with non-financial reporting. In this case, a step towards mandatory non-financial reporting can miss its goal.

3.4 Improving the effectiveness of non-financial reporting

The World Business Council for Sustainable Development (WBCSD) recently studied the effectiveness of the current non-financial reports of its members. Not only did they evaluate key findings concerning the reporting trends, they also highlighted recommendations in order to improve the effectiveness of sustainability reporting. The WBCSD (2014) came up with key findings about the current status of non-financial reporting and recommendations that are necessary to improve the effectiveness of sustainability reporting. An overview of all these recommendations is included in Annex II.

According to WBCSD (2014; 2015), there are some overarching concepts that should guide the application of the content criteria in the report. These principles are completeness, stakeholders engagement, materiality, external environment, reliability, balance and conciseness. Moreover, they provided seven content criteria that should be included in the report: Governance & Accountability, Strategy & Drivers, Commitments & Targets, Management approach, Performance, Evidence of activities and Strategic Partnerships & Collaboration. Lastly, WBCSD (2014; 2015) stresses the importance to focus on four experience criteria, which will improve the reader's overall experience of the report. These criteria concern accessibility, content architecture, line of sight and information presentation.

For all these principles, content criteria and experience criteria, the WBCSD (2014) came up with key recommendations that are necessary to improve the effectiveness of sustainability reporting. The key recommendations concerning the principles of a non-financial report of WBCSD are included in table A1, A2 and A3 (see annex II). As these tables show, the effectiveness of non-financial reports can be improved by some simple changes: a report has to go beyond the publishing of simple performance outcomes. The main points highlighted by WBCSD (2014) concern the engagement with stakeholders and the focus on the business process instead of a focus on simple facts. It is important that organizations show that they listen to the concerns, suggestions and feedback of stakeholders, by relating this input to the business strategy and decision making of the organizations.

Organizations have to provide a report that enables stakeholders to understand the organization: not only their performance, but also the path towards these performances. Moreover, organizations should not only report on effects, but explain how it is integrated in the business context as well. Also the key recommendations of WBCSD concerning the content criteria show that it is not about reporting facts and that organizations should not only provide information on performance outcomes. According to WBCSD (2014), a non-financial report should consider the process towards sustainability performance outcomes and the relationship between the (sustainability) performance with the business strategy, business models, strategic programs, strategic objectives as well. Moreover, in the process of non-financial reporting, organization should not only use short-term targets. It is also very important that organizations report on medium and long-term targets. This enables the readers of the report and the stakeholders to see improvement in the organizations' performance and to give feedback. Summarised, the report of WBCSD (2014) shows that non-financial reporting is an instrument to develop a sustainable development strategy. The content of the report must show this development and process and should not only focus on outcomes.

Lastly, WBCSD (2014) came up with some suggestions to improve the experience criteria of the readers of the report. Certain lay-out issues seems not very important, but it clarifies the report and makes the report much more readable. According to WBCSD (2014), *"experience criteria assess the content from an audience perspective and assume that reports will more than likely to engage audiences"* (WBCSD, 2014, p. 11). Moreover, when the content is clear stakeholders can give advice, suggestions and criticism based on the report. Organizations can use this feedback in their decision-making and management processes. Consequently, this helps organizations to improve its performance

3.5 The importance of feedback loops

As previously mentioned, one of the main conclusions of the report of WBCSD (2014), is the importance of the use of stakeholder feedback by the organization. According to WBCSD (2014), the reason to create a clear report is to engage audiences. Once the content of the report is clear, stakeholders can give advice, suggestions and criticism to the organization based on the report. Organizations can use this feedback in their decision-making and management processes. They also argued that it is valuable when a non-financial report considers not only sustainability performance outcomes, but information about the process towards these outcomes as well. This enable stakeholder to provide feedback on this process, which is helpful for organizations to think about the relationship between the (sustainability) performance with the business strategy, business models, strategic programs and strategic objectives. Moreover, it is very important that organizations report on medium and long-term targets. All these aspects enable the readers of the report and the stakeholders to see improvement in the organizations' performance and to give feedback. Based on this feedback, organization can reconsider its decisions or improve their performance (WBCSD, 2014).

In addition to the belief of WBCSD that stakeholder feedback is very important, Deloitte and MVO Nederland (2015) also recognise this issue. Referring to the NS Annual Report 2014, they argue that dialogue with stakeholders is important in order to reach impact. Moreover, according to Deloitte and MVO Nederland (2015), external pressure from stakeholders is important because it works better than internal pressure.

Summarizing, it is important that organizations show that they listen to the concerns, suggestions and feedback of stakeholders, by relating this input to the business strategy and decision making of the organizations. Moreover, organizations have to provide a report that enables stakeholders to understand the organization: not only their performance, but also the path towards these performances. Moreover, organizations should not only report on effects, but it is very important that they explain how it is integrated in the business context as well. Therefore, we included both an internal feedback loop in the ToC, as well as an external feedback loop. The internal feedback loop is going from performance measurement, transparency, comparability, performance management and performance improvement back to 'increased demand'. This internal loop enables feedback within the organization. It enables managers and executives to have insight in the question whether they are managing the right thing. Moreover, it is argued that internal performance management is needed before organizations are able to report externally on how their performance leads to value creation (Deloitte and MVO Nederland, 2015). For this a performance management framework is required in order to integrate financial and non-financial information and to align this information with the organizations' strategy. An internal feedback loop is essential for this internal performance management. Lastly, the external feedback loop is going from performance management and performance improvement to increased demand of non-financial reporting. This stakeholder feedback loop can also appear from transparency and comparability towards increased demand, in the case an organization is reporting but does not provide insight into the status of and changes to its performance.

3.6 Consequences of non-financial reporting

In table 2, an overview is provided of all internal and external consequences of non-financial reporting on society and the organization. The effects and impacts can be both positive (+) and / or negative (-) for organizations or stakeholders. Moreover, the effects of non-financial reporting differs per context. For example, it can generate positive or negative consequences in the specific context of mandatory (M) or voluntary (V) reporting. In the tables below we classified the effects of reporting as 'M' or 'V'. Research categorized as 'M' includes research that analyzed the specific effects of mandatory non-financial reporting. In addition, research categorized as 'V' include research that 1) analyzed the specific effects of voluntary non-financial reporting or 2) analyzed the effect of non-financial reporting in a voluntary situation.

Table 2 Overview of the effects and impacts (both positive and negative) of non-financial reporting

Current non-financial reporting can lead to:	**Reference**	**Effect / Impact**	**Context**
External effects			
Improved firm reputation	Maas, 2009	+	V
Increased stakeholder satisfaction (stimulation of dialogue with stakeholders)	Maas, 2009; IIRC, 2011; Black Sun, 2012; Elkington and Renaut, 2010)	+	V
Increased transparency	Kolk, 2004; IIRC, 2011; Black Sun, 2012; Elkington and Renaut, 2010)	+	V
Increased credibility	Kolk, 2004	+	V
Improved firm valuation as consequence of regulation	Ioannou and Serafeim, 2014	+	M
Boost market share	Kalkanci et al., 2012	+	V
Stakeholder engagement	Kruz, 2011; Eccles and Krzus, 2010; Eccles and Saltzman, 2011	+	V
Positive market reaction: positive stock returns	Grewal et al., 2015	+	M
Understanding of organization (structure / impact / its relation with different forms of capital)	OECD, 2009; IIRC, 2011	+	V
Comparability	Jeffrey and Perkins, 2014	+	M
Improved competitive position	Eccles and Krzus, 2010	+	V
Deteriorating competitive position	NEMACC, 2013	-	V
Difficult comparability (doubts about usability of reports)	Maas et al., 2014, Eccles and Saltzman, 2011; Eccles et al., 2012; Kieft, 2013	-	V
Confusion concerning ESG indicators	Eccles et al., 2012; Wensen et al., 2011; Eccles and Saltzman, 2011; Cheng et al., 2014	-	V
No clear image long term value creation for society (as consequence of PR, greenwashing tendencies, etc)	Massie, 2010; Frankental, 2001; Keim, 1978; Margolish and Walsh, 2003; Hahn and Lulfs, 2014	-	V / M
No clear image of impact generated by organization	Flower, 2015	-	V
No clear image of future value for organization	Friedman, 1970; Vance, 1975	-	V
Internal effects			
Increased awareness in organization about their role in society	Kolk, 2004	+	V
Successful decision making	Krzus, 2011; IIRC, 2012; Eccles and Krzus, 2010; Garcia-Sanchez et al., 2013; Prado-Lorenzo and Garcia-Sachez, 2010)	+	V

Ability to manage reputational and organizational risks	Eccles and Saltzman, 2011; Krzus, 2011; Garcia-Sanchez et al., 2013	+	V
Relation between financial and non-financial information (good for management)	Abaysekera, 2013; Eccles and Saltzman, 2011; Mammat, 2009	+	V
Clear image of organization with information on future value of organization	Adams, 2015; Black Sun, 2012	+	V
Adoption of environmental practices	Camisón, 2010	+	M / V (voluntary most stimulating)
Innovation	Porter and Kramer, 2006; Husted and Salazar, 2006; Hart and Milstein, 2003	+	V
Improved operating performance	Guenther et al., 2015; Delmas et al., 2010; Grewal et al., 2015; Bennear et and Olmstead, 2008; Christensen et al., 2015; Barbu et al., 2014	+	M
Improved chance of success	Garcia-Sanchez, 2013	+	V
Accession of new markets	OECD, 2009	+	V
Decision making without new mindset of manager	Adams, 2015	-	V
Declining productivity	Christensen et al., 2015	-	M
Compliance / lack new mindset	Habek and Wolniak, 2013	-	V
Uncertain chance of success	Adams, 2015	-	V

3.7 Stimulation of non-financial reporting

Based on the literature review conducted in chapter 2 and 3, an overview is given of all aspects that stimulate non-financial reporting in table 3. These aspects drive the 'demand' part in the ToC.

Table 3 Overview of aspects that can stimulate the trend towards non-financial reporting

Aspects that stimulate non-financial reporting	**Reference**
Changing stakeholder expectations	Eccles and Krzus, 2010; Maas, 2011; Eccles and Serafeim, 2011; Guenther et al., 2015
Increased attention transparency	Garcie-Sanchez et al., 2013; Keeble et al., 2003; Gray et al., 1988
Increased attention accountability	Deckop et al., 2006; Berrone and Gomez-Mejia, 2009; Frias-Aceituno, 2013; Maas, 2009
Increased attention value / responsibility / innovation companies	Berrone and Gomez-Mejoa, 2009; Habek and Wolniak, 2013
Policies by government / regulatory pressures	Van Esch and Steurer, 2014; Marguire, 2012
Economic crisis	King, 2011
Growth opportunities, company size, board size and diversity	Frias-Aceituno et al., 2012

3.8 Barriers for effectiveness of non-financial reporting

In table 4, an overview is given of the aspects that hamper the effectiveness and positive impacts of non-financial reporting. To completely benefit from all the advantages non-financial reporting can offer, these aspects need to be addressed. The literature distinguishes limitations of non-financial reporting in a voluntary context (V), but some studies also distinguish the limitations of specific voluntary non-financial reporting (V) or specific mandatory non-financial reporting (M).

Table 4 Overview of aspects that hamper the effectiveness and positive impacts of non-financial reporting

Aspect that hamper the effectiveness / impacts of non-financial reporting	**Reference**	**Context**
Information not always sufficient for user perspective – gap between stakeholders and companies	Eccles and Serafeim, 2011; Cheng et al., 2014; Kamp-Roelands, 2011, Wallage, 2011	V
Lack of comparability between reports	Maas et al., 2014, Eccles and Saltzman, 2011; Eccles et al., 2012; Habek and Wolniak, 2013	V
Absence of general framework / clear guidelines	Eccles and Saltzman, 2011; Cheng et al., 2014; Eccles et al., 2012; Habek and Wolniak, 2013	V
Lack of inclusion of business and society in guidelines	Lozano, 2013	V
Lack of clarity of useful ESG indicators	Eccles et al., 2012; Wensen et al., 2011	V
Information on ESG indicators presented in disconnected way	IFAC, 2012	V
Myth that non-financial reporting is only good for internal use	NEMACC, 2013	V
Lack of new mindset of the manager / compliance	Adams, 2015; Habek and Wolniak, 2013	V / M
Costs	Adams, 2015	V
Investors neither rewarded nor penalized firms for violating matters in corporate decisions	Christofi et al., 2012	V
Lack of awareness at organizations and stakeholders	Ramos et al., 2013	V
Proper monitoring and enforcement	Habek and Wolniak, 2013	V
Effectiveness of non-financial reporting differs per social and environmental context and industry	(see f.e. research Ioannou and Serafeim, 2014)	M
Fear for drop of investor value	Kalkanci et al., 2012	M
No engagement investor community	Perego et al., 2016; Cheng et al., 2014	V

4. Interviews

In addition to the grey and academic literature consulted, it is valuable to have insight in the experiences and opinions of experts. Therefore, six semi-structured interviews are held in December, 2015. An overview of the interviewees is included in Annex IV. The aim of these interviews was to analyze the similarities between the results of the academic literature and the experiences in practice. Do practitioners recognize the disadvantages, benefits and barriers of an effective implementation of non-financial reporting? How do they feel about the arguments for and against mandatory and voluntary non-financial reporting? Do they believe that organizations can make a link between non-financial reporting, performance management and ultimately performance improvement?

According to the interviewees, reporting on non-financial information positively stimulates sustainability. The interviews show that the level of non-financial reporting in the Netherlands among large organizations is already well developed; the quality of the current non-financial reports in the Netherlands is increasing and organizations increasingly focus on IR. The focus of the European Commission is on organizations with more than 500 employees: exactly the group of organizations that is already reporting their non-financial information in the Netherlands. Therefore, it is argued that an EU directive can help for a level playing field. However, it is also argued that regulation would will have more results in other EU countries where non-financial reporting does not yet received that much attention.

Large organizations are, more than SME's, subject to external pressure that stimulates them to report on non-financial issues. The interviewees believe that the relatively high extent of non-financial reporting in the Netherlands is mainly caused by the Transparency Benchmark; all organizations want to have a high ranking on this benchmark. Mostly, if organizations receive a low score, they want to improve their ranking. However, a high score for transparency does not provide any information about the actual performance of the organization. Therefore, one of the interviewees suggested to implement a Transparency Benchmark 2.0. This will stimulate the organizations that are already reporting towards performance improvement. Additionally, the experts also stresses the importance of commitment of the board for performance improvement. Once non-financial issues are part of the management report, organization will act upon it.

The interviewees do not agree with each other concerning the question whether the EU directive should be mandatory. On the one hand, interviewees argued that the current focus on the 'comply or explain' principle is not sufficient. In addition, there is a need for better structured non-financial reports. On the other hand, it is argued that mandatory regulation of non-financial reporting could also lead to reactive behaviour. It is likely that in most organizations there is more going on than included in the report of the organization (based on mandatory guidelines). Therefore, some interviewees argued that voluntary reporting can stimulate more proactive reporting behaviour in the organizations.

Despite the different opinions concerning mandatory or voluntary regulation, all interviewees provided suggestions how to frame the EU directive in the Netherlands. First, it is important that organizations start thinking about their mission and vision on sustainability and future outlook and use that starting point to analyse their material issues. This implies that the organization must know its nature: who am I? What am I doing, and why? What are the consequences of my activities and how future-proof am I? Only then the organization will be able to create a valuable non-financial report.

The experts advise not to create a new framework, but to build on existing frameworks. According to the interviewees, the task of the EU directive is to provide guidelines and to monitor and control the reported information. For example, the Dutch government could involve AFM or the Raad van Jaarverslaggeving. If the EU directive is translated to Dutch organizations, this can push organizations to report on material issues and to include an interpretation of this information in the risk paragraph or the management letter. When the AFM discloses information about those risk paragraphs, investors will respond to this. This has an effect on the firm value of organizations. It is expected that organizations will respond to the changing firm value by improving their performance.

Reporting about material issues will on the one hand, decrease the comparability between organizations. If more attention is paid to the relation between non-financial information, the business strategy and the business model, comparability will be more difficult. On the other hand, it enables organizations to focus on the issues that are most important for the business. In addition, some interviewees argue that the formulation of targets is very important as well. Not only do these indicators help organizations to improve its performance, it is also very important for transparency. Lastly, the inclusion of a limited number of sector specific indicators is suggested to enable comparison within sectors.

5. Methodologies

Most of the studies on the effectiveness of non-financial reporting focus on the process, the implementation of existing frameworks or the results of reporting for the organization. As our literature review showed, only a few academic studies have focussed on the effects of mandatory and/or voluntary non-financial reporting. We analyzed the methodologies used by the most relevant studies[12] and specified the focus of the studies (external effects, internal effects or boundaries related to voluntary and / or mandatory non-financial or environmental reporting). This analysis helps us to identify useful methods for an impact assessment of mandatory non-financial reporting in the Netherlands.

As shown in table 5, previous research used several methodologies and approaches to analyze the effects and consequences of non-financial reporting (for a more extensive overview see annex III). A broad range of research methods has been used, from qualitative interviews or content analysis of the reports to quantitative comparisons of data based on a difference in difference analysis with comparison group.

This overview, including 24 studies, shows that eleven studies (46%) focus on external effects, eight studies (33%) focus on internal effects and seven studies (29%) focus on barriers.[13] Of the eight studies focussing in internal effects six (75%) of them look at the effects of mandatory reporting, while two (25%) of them look at both mandatory and voluntary reporting. Interestingly, only three studies focussing on mandatory reporting use a comparison group (25%) (Grewal et al., 2015; Christensen et al., 2015; Ioannou and Serafeim, 2014).

Of the 24 studies, twelve of them (50%) use qualitative data while 12 studies (50%) use quantitative data. Interestingly, none of these studies use a mixed methods approach combining qualitative and quantitative analysis. Five studies use primary data (21%), mainly collected by surveys and other approaches. Eighteen studies use secondary data (75%) and only one study use both primary and secondary data (4%). Of the 24 studies, only four studies make use of a comparison group (17%).

This overview shows that no clear specific research approach is used for certain research questions. However, it is interesting to see that all of the studies that look at the internal effects of reporting focus on mandatory reporting or a combination of mandatory and voluntary reporting.

[12] We selected only the articles relevant for the research for PBL and articles that have appeared recently. We are aware that this is a subjective approach, but we believe that – despite this limitation – it helps us to understand the possibilities to measure the effectiveness of a mandatory non-financial reporting regulation in the Netherlands.
[13] The sum of these percentages is not equal to 100%, because some studies focus on both external and internal effects.

Table 5 Previously used methodologies to analyze the effect of mandatory or voluntary non-financial reporting

Effects	Author	Qualita-tive	Quanti-tative	Primary data	Secondary data	Source: Interviews	Source: surveys	Source: database	Source: other	Comparison group	Context (M or V) [14]
External effects											
Improved firm valuation	Ioannou and Serafeim, 2014		x		x			x		x	M
Boost market share	Kalkanci et al., 2012		x	x			x				V
Positive market reaction	Grewal et al., 2015		x		x			x		x	M
Comparability	Jeffrey and Perkins, 2014	x			x				x		M
No clear image long term value	Hahn and Lülfs, 2014	x		x					x		V
Information not always useful from user perspective	Kamp-Roelands, 2011;	x			x				x		V
Information not always useful from user perspective	Wallage, 2011	x			x				x		V
Difficult comparability	Maas et al.,2014		x	x			x				V
Difficult comparability	Kieft,2013;	x			x				x		V
Difficult comparability	Eccles and Saltzman, 2011	x			x				x		V
Difficult comparability, confusion concerning ESG factors, information gap	Eccles et al., 2012		x		x			x		x	V
Internal effects											
Adoption of environmental practices	Camisón, 2010		x		x			x			M / V

[14] In table 5 we classified the effects of reporting as 'M' or 'V'. Research categorized as 'M', includes research that analyzed the specific effects of mandatory non-financial reporting. In addition, research categorized as 'V' include research that 1) analyzed the specific effects of voluntary non-financial reporting or 2) analyzed the effect of non-financial reporting in a voluntary situation.

Effects	Author	Qualita-tive	Quanti-tative	Primary data	Secondary data	Source: Interviews	Source: surveys	Source: database	Source: other	Comparison group	Context (M or V) [15]
Improved operating performance	Guenther et al.,2015		x		x		x	x			M
Improved operating performance	Grewal et al., 2015		x		x			x		x	M
Improved operating performance	Delmas et al, 2010		x		x			x			M
Improving operating performance	Bennear and Olmstad, 2008		x		x			x			M
Improved operating performance, declining productivity	Christensen et al., 2015		x		x			x		x	M
Compliance / lack new mindset	Habek and Wolniak, 2013	x			x				x		M / V
Fear for drop in investor value	Kalkanci et al., 2012		x	x			x				M
				Barriers							
No engagement investor community	Perego et al., 2016	x		x	x	x			x		V
No engagement investor community, information not always useful from user perspective	Cheng et al., 2014	x			x				x		V
Investor neither reward nor penalized firms for violating matters in corporate decisions	Christofi et al., 2012	x			x				x		V
Costs, lack of new mindset	Adams, 2015	x			x				x		V
Information gap	Eccles and Serafeim, 2011		x		x			x			V
Lack of inclusion of business and society guidelines	Lozano, 2013	x		x					x		V
Lack of awareness	Ramos et al., 2013		x	x			x				V

[15] In table 5 we classified the effects of reporting as 'M' or 'V'. Research categorized as 'M', includes research that analyzed the specific effects of mandatory non-financial reporting. In addition, research categorized as 'V' include research that 1) analyzed the specific effects of voluntary non-financial reporting or 2) analyzed the effect of non-financial reporting in a voluntary situation.

6. Future Outlook Advice

Regulation is often seen as an adequate tool for improving corporate sustainability practices (Habek and Wolniak, 2013). Therefore, based on a Commission communication entitled 'A renewed EU strategy 2011-14 for Corporate Social Responsibility', the European Commission decided to present a legislative proposal for non-financial reporting, because they believed there is a need to improve the disclosure of social and environmental information (European Commission, 2014). The European Commission aims to increase the performance and the accountability of organizations, and to enhance the efficiency of capital markets (European Commission, 2013). These changes are deemed to result in final social, environmental and human rights impacts (performance). In this light, the Dutch government decided to implement the EU directive of non-financial reporting in 2016.

According to the website of the European Commission, *'large public-interest entities (listed companies, banks, insurance undertakings and other companies that are so designated by Member States) with more than 500 employees should disclose in their management report relevant and useful information on their policies, main risks and outcomes, relating to several sustainability issues'* (European Commission, 2015). Moreover, the European Commission emphasized that *'this should not prevent Member States from requiring disclosure of non-financial information from undertakings and groups other than undertakings which are subject to this Directive'* (European Commission, 2014, p. 3). In other words, each member state can determine its own target audience for the mandatory regulation.

In commission of PBL, Erasmus University analyzed the Theory of Change (ToC) behind such a regulation as well as the evidence base for its assumed effectiveness. The results show that the potential benefits of mandatory non-financial reporting strongly depends on the objectives the Dutch Government aims to achieve with mandatory non-financial reporting. Does the government intend to improve transparency, comparability or sustainability performance improvement? Furthermore, it is important to realize that the Dutch government uses a societal perspective. It is likely that the principal aim of the Dutch government with non-financial reporting in the end is to limit negative externalities from organizations' actions, either within the Netherlands or through their supply chains abroad, and to improve organizations' performance on non-financial issues, using the internal and external feedback loops. This research shows that the ToC to achieve performance improvement by reporting is complex but there are clear points of attention that have potential to enforce or stimulate that process. Given the complexity and need to gather more evidence, being clear and explicit about the long-term ambition of enforcing non-financial reporting is needed. This would allow for incremental developments based on advanced insights and evidence. In this future outlook we describe the expected benefits of mandatory non-financial reporting from a societal perspective.

6.1 In general mandatory regulation can create benefits

In developed countries, society and organizations are already aware of the importance of non-financial reporting. Literature and practice shows that many organizations already voluntarily report on non-financial issues. This is especially true for large organizations. These organizations are in general aware of the benefits that non-financial reporting can bring to the business as well as to stakeholders and society at large. In the Netherlands we have seen an increase of reporting on non-financial indicators, also without mandatory regulation. However, there is still a large group of laggards (mainly SME's) that do not yet report on non-financial information. If you want to target SME's, mandatory non-financial reporting will obligate these laggards to report on non-financial information.

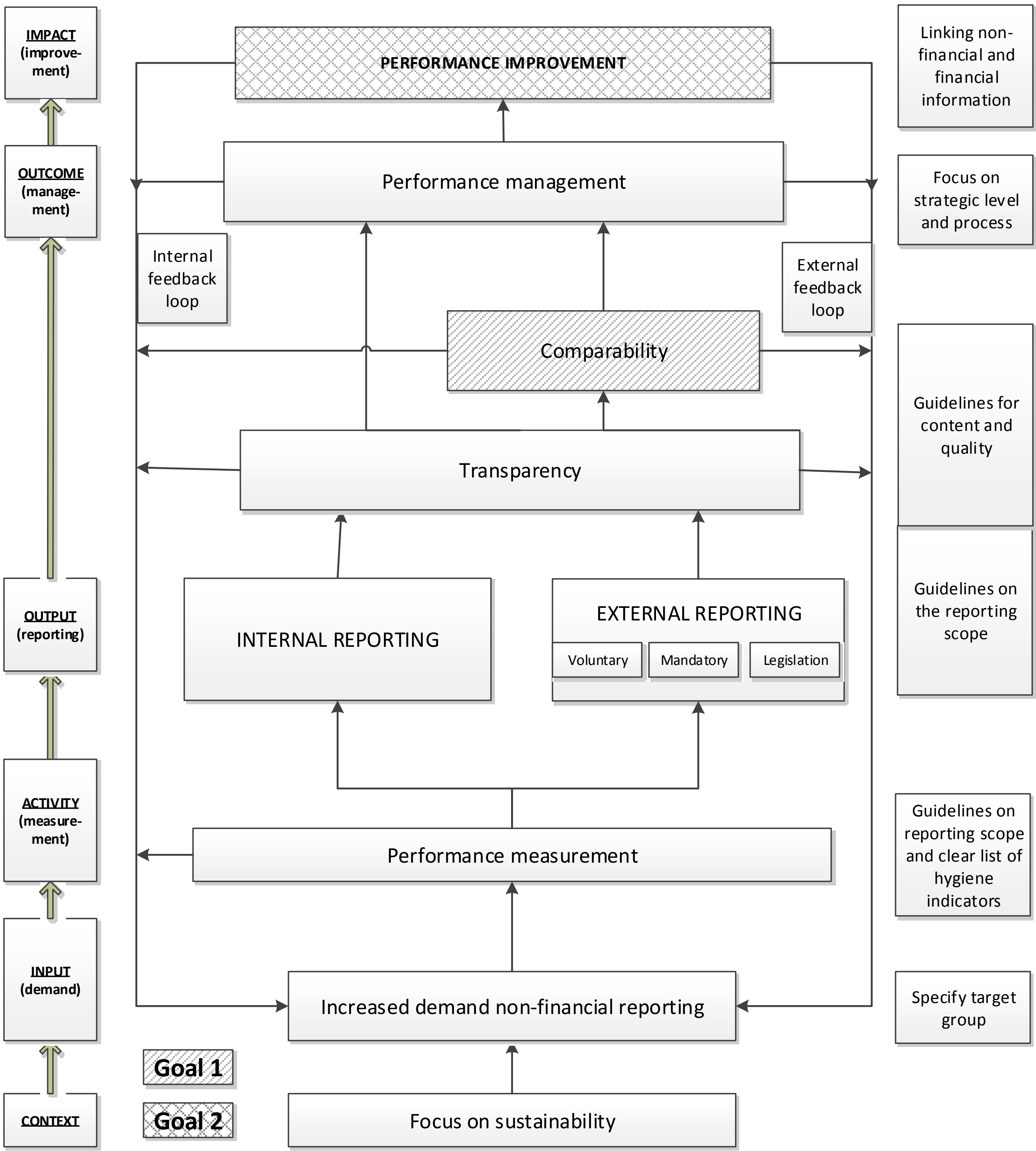
Next to that reporting is evolving strongly towards an integrated approach. Mandatory non-financial reporting could also focus on the process describing how organizations think holistically about their strategy and plans and how sustainability fits in make informed decisions and manage key risks and opportunities to build stakeholder confidence and improve future performance. Many organizations still struggle to adopt such an integrated approach.

In result, mandatory non-financial reporting could also benefit the organizations that already report on non-financial information by giving them more guidance to *how* to report in an integrative way and about *what* to report. This could lead to more transparency as well as to better performance.

6.2 Shaping mandatory non-financial reporting based on objectives

In order to shape an effective mandatory guideline, it is important for the Dutch government to first set a clear objective. As indicated in figure 2, two possible goals for the government are specified in the ToC. The first objective of the government can be better comparability by transparency (see the striped box). The second objective of the government can be non-financial performance improvement (see the blocked box). If the focus is on the first objective, improve comparability by transparency, this will not automatically lead to non-financial performance improvement. However, if the objective is to improve non-financial performance this can be obtained with and without improving comparability by transparency. Depending on the objective of the government, an effective mandatory regulation could be developed.

Figure 2 ***Theory of change behind regulating non-financial reporting including roadmap for government***



6.2.1 Goal 1: Comparability based on transparency

If the Dutch government wants to improve comparability by transparency among Dutch organizations by implementing the EU directive for non-financial reporting, they have to determine which organizations have to comply with this regulation. Which organizations want the government to be more comparable? The organizations in the Netherlands with more than 500 employees, as suggested by the European Commission? Or does the Dutch government want to oblige the Small and Medium Enterprises (SME's) to report on non-financial information as well?

Improvement of comparability between Dutch large organizations as a main goal would not be a very innovative initiative, as in the Transparantiebenchmark (TB) the 500 biggest companies as well as (semi) governmental organizations within the Netherlands are already scored on their transparency based on a within group comparison. So if the objective is mainly to improve comparability, the focus should either be on a larger target group than the TB is focusing on or on different issues than the TB is taking into account,.

It would be beneficial to include general guidelines on what to report on. For example, include a relevant list of a limited amount of indicators (hygiene factors) with clearly specified measurement units. Next to that, it would be good to provide guidance on the scope of the report (e.g. information on the supply chain). It might also be good to include requirements that improve the content as well as the quality of the reports. One of the most important aspects is to set clear, comparable units of measurement. Moreover, it would also be good to include content criteria as developed by WBCSD (2014) (see annex II). It is important to note that all interviewees' emphasized that it would not be beneficial to develop a new guideline but to build upon the existing guidelines likes GRI G4 and IIRC.

HIGHLIGHTS

Objective: comparability by transparency

- General or sector specific framework
- Determine the target group of the regulation (large organizations or SME's).
- Provide guidelines of reporting scope (e.g. information on supply chain)
- Provide guidelines for content and quality of the reports
- Include a relevant list of a limited amount of indicators (hygiene factors)

6.2.2 Goal 2: Non-financial performance improvement.

To stimulate non-financial performance improvement, mandatory regulation should push organizations beyond the compliance of reporting on (sector specific) performance indicators. The literature review showed clearly that non-financial reporting can be an instrument to develop a sustainable development strategy and consequently, the content of the report should reflect this development and process. Therefore, it could be suggested to include important elements that enable organizations to think about the process and the management of non-financial performance, instead of only reporting on outputs.

To support performance improvement it is important that organizations see the direct benefits of non-financial performance. When organizations are aware that non-financial reporting influences their triple bottom line, previous research shows that those organizations are more willing to improve performance and become more pro-active. Pro-active organizations are more interested in an integrated approach as they are eager to understand the link between non-financial and financial information.

In result, mandatory regulation should not only focus on exact numbers and short term performance indicators, but should focus on information on the process, policies, ambition, long term targets and monitoring of the results as well. This would also include a comparison to previous year performance. Next to that, information on the management of performance data would be informative as well. A focus on material issues, requests for feedback and management of received feedback and decision-making would be interesting.

If the objective would not only be performance improvement but also comparability, it can be suggested to have a hybrid approach. One of the most important aspects in this light is to set a limited amount of clear, comparable units of measurement (a limited amount of so called hygiene factors that all organizations should report on). Lastly, it would be beneficial for the organizations as well as to society to think about the impact of non-financial performance on financial performance.

HIGHLIGHTS

Objective: Non-financial performance improvement

- General framework
- Focus on strategic level (roadmap to come to materiality issues)
- Require reporting on process level (management systems, policies, targets, medium and long-term ambition, PDCA cycle, monitoring of the organization)
- Ask how the organization deals with feedback of external and internal stakeholders and how this influences decision making.
- Ask for logic linking non-financial to financial information

Optional to also stimulate comparability:

- Include a relevant list of a limited amount of indicators (hygiene factors)

6.3 Methodology to measure the effect of mandatory regulation

The ToC developed is only a hypothesis of the possible process of mandatory and voluntary regulation of non-financial reporting. In order to analyze whether the ToC is correct, and whether the implementation of mandatory regulation of non-financial reporting in the Netherlands indeed leads to the expected effects, the actual effects should be measured. As chapter 5 showed, previous research have used many different methods to measure the effect of non-financial reporting in general or the effect of mandatory non-financial reporting. Both qualitative research methods, such as content analysis and interviews, as well as quantitative, empirical methods such as difference-in-difference analysis, can be used to measure the effects of non-financial reporting regulations. Therefore, the question which method best to use for the analysis of the mandatory regulation in the Netherlands is not easy to answer. The methodology that might be useful to measure the actual effects of mandatory reporting on non-financial information depends on the objective the government has. In any case, it is recommended that the Dutch government makes sure that the implementation of the directive in the Netherlands, plus any potential accompanying policies, are monitored and evaluated in order to improve the evidence base and improve the effectiveness of the instrument. That would require potentially a baseline study in 2016 and planning for follow up studies.

6.3.1 Methodology to measure goal 1: Comparability by transparency

The method to analyze the effect of the mandatory EU directive for non-financial reporting on comparability is quite similar to the method of the Transparency benchmark. By means of qualitative, content analysis of annual reports or sustainability reports, organizations can be scored on the different elements that are included in the EU directive. Based on this method, it is possible to analyze whether the implementation of the mandatory regulation has led to an increasing number of sustainability reports and to more transparent and comparable reporting of organizations.

For this methodology an event study might be a good approach. T0 is the moment before the implementation of the EU directive. For all organizations that are obliged to report according to the mandatory regulation, a qualitative content analysis of the sustainability or annual reports must be conducted at this moment (T0). A year after the implementation of the mandatory regulation, the same content analysis can be executed (T1). Consequently, we are able to analyze the differences in reporting practices between the two measurement moments T0 and T1. As the implementation of the new regulation can be seen as such an important and strong event, it might not be necessary to actually include a comparison group in the analysis. Further specification of the measurement approach is out of the scope of this research.

6.3.2 Methodology to measure goal 2: Non-financial performance improvement

Measuring the change in performance is much more complex than measuring the change in transparency, as the link between regulation and transparency is more direct that the relation between mandatory regulation and non-financial performance.

First, it is important to determine which aspects of non-financial performance you want to measure. Examples of measurable non-financial indicators, are Health, Safety and Environment (HSE) rates, waste, water, carbon emission, sustainable employability, training possibilities and innovation. Examples of process indicators are, how did you selected your material issues, what is your strategy related to non-financial performance, how does this link to your business, have you set targets, etc..

Once the government has decided which aspects of non-financial performance it finds most important, a clear measurable unit has to be set. Consequently, similar to the measurement of transparency, both T0 and T1 measurement moments are necessary to analyze non-financial performance improvement. Because of this approach, it is possible to see changes that occurred over time (before and after the implementation of the regulation). To be able to say something about the causality (is the difference in reporting practices actually due to the new regulation?) it would be preferable to have a comparison group. As the regulation will become active at once for all comparable organizations, we expect that it will not be possible to identify a good comparison group. If wanted, the regulation could be introduced in such a way that the formation of a comparison group would be possible. Further specification of this measurement approach is out of the scope of this research.

HIGHLIGHTS **measurement of impact**

- Methodology that is needed to measure the effect of the mandatory regulation depends on the objective of the government
- In order to measure transparency, qualitative content analysis of annual reports or sustainability reports is suitable (T0 and T1 comparison)
- In order to measure performance improvement, quantitative different-in-different analysis (T0 and T1 comparison with comparison group)

6.4 Closing remarks

Next to the suggestions for the content of the mandatory regulation and the methods to measure the effects of this mandatory regulation, some other issues can be highlighted that would help to improve (the positive effects of) mandatory non-financial reporting in the Netherlands.

Firstly, it would be beneficial to develop a so-called Transparency Benchmark 2.0, where the 500 biggest Dutch companies and (semi) governmental organizations are not valued based on their transparency but on their actual non-financial performance.

Secondly, it would be advisable for the Dutch government to actually *use* the information published by the organization as a consequence of the mandatory regulation. If the government asks for this information but does not use this information for its own decision-making, the regulation is for organizations only another reporting instrument to comply with. Once it is clear that the government wants to use the mandatory regulation for other purposes, for example as accelerator e.g. by sustainable procurement, the mandatory regulation initiative distinguishes itself from other mandatory and/or legislation reporting frameworks.

Thirdly, the Dutch (national, regional and local) government could give a good example by starting to report on the integration of non-financial and financial information. It would be good if the reports from the Dutch government would be a “best practice.”

HIGHLIGHTS

- The development of a Transparency Benchmark 2.0 focussing on peformance
- Show the organizations that the government is actually planning to *use* the reported information
- Dutch government could give the good example by also reporting non-financial information
- Investigate the potential role of for example the “AFM” or the “Raad voor de Jaarverslaggeving”

Lastly, it would be interesting to investigate the potential role of for example the “Autoriteit Financiële Markten (AFM)” or the “Raad voor de Jaarverslaggeving” in the implementation and effectiveness of the mandatory non-financial reporting regulation.

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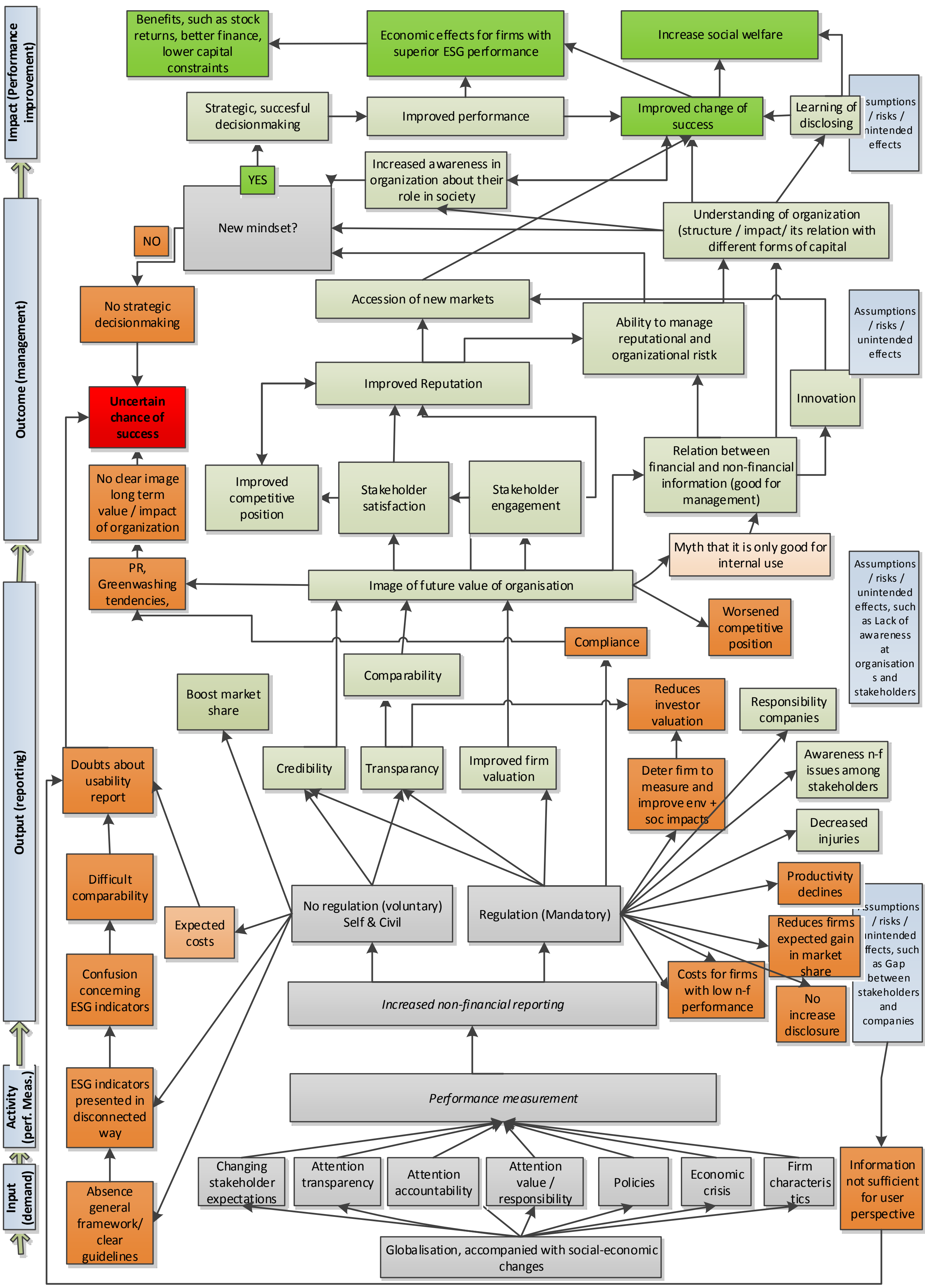
Annex I – Complete Theory of Change



Annex II – Key recommendations of WBCSD (2014) to improve effectiveness of sustainability reporting

Table A1 Principles to improve effectiveness of non-financial reporting according to WBCSD. Source: WBCSD, 2014, p. 20-27

Key recommendations		
Principles	Completeness	Create absolute clarity by clearly stating the report scope and boundaries
		Adopt a value chain approach to reflect a wider picture of material impacts
		Include clear description of the value chain of the company
	Stakeholder engagement	Provide information on the companies' approach to stakeholder engagement and stakeholder activities
		Explain why stakeholders are important and what both organization and stakeholders gain from open dialogue
		Discuss whether the input of stakeholders lead to any changes in strategy or management approach
	Materiality	Provide information on the materiality process involving representative and critical external and internal stakeholders and explain how this influenced decision making.
		Direct readers where they can find the outcomes of the materiality analysis.
		Describe how material issues have been prioritized and how they relate the broader risk management
		Consider external assurance for the process and outcomes of materiality analysis
	External environment	Analyze the external environment and link them to enterprise risk management process
		Describe the external environment in the context of the business model and strategy
		Use external environment analysis in the long-term vision of the organization (integration in business model and strategy)
	Reliability	Describe assurance process fully
		If external assurance is not used, explain why
		Define technical terms if necessary
	Balance	Created balanced report by providing details on missed targets and areas of poor performance
		Demonstrate engagement with stakeholders by responding to their criticism and concerns
		Disclose nature and amount of fines paid and any non-compliance incidents
	Conciseness	Understand the audience's information requirements and meet their needs
		Focus reporting on material issues and aboid unnecessary disclosures
		Provide summary document
		Agree on word limits for key sections and ensure report contributors are properly briefed so that they understand how much detail is needed.

Table A2 Content criteria to improve effectiveness of non-financial reporting according to WBCSD. Source: WBCSD, 2014, p. 28-38.

		Key recommendations
Content criteria	Governance & Accountability	Describe how sustainability governance is structured and how this is embedded in the overall governance structure of the organization.

		Provide details on committee meetings related to sustainability
		Use internal audits to improve reported data
	Strategy & Drivers	Identify the key sustainability outcomes the business wants to achieve and link these to the core business strategy
		Aim to show how the strategy drives commercial value as well as sustainable outcomes (avoid limiting the sustainability outcomes to downside risk management)
		Articulate a clear business case that is specific to the business and external environment, and also reference key drives such as cost savings and expected benefits
	Commitments & targets	Ensure every material issue has a measurable target (ideally addressing direct impacts within the operation of the business as well as impacts of customers and suppliers is wider value chain)
		Set medium and long term targets (next to short term targets) so that the reader can see a development towards improved performance.
		Report on progress and level of achievement against past targets, regardless of poor performance
	Management approach	Describe tools, systems, controls, processes and frameworks that guide strategy implementation to provide a fair and balances overview of management approach.
		Show how sustainability is embedded in corporate and operational functions beyond CSR team.
		Communicate information on data collection processes and internal controls internally to improve the confidence in the quality of non-financial data.
	Performance	Ensure the development of at least one KPI per material issue and track progress over time (if a sector has developed a standard, this can be used to allow performance comparability)
		Clearly distinguish material KPIs from other indicators and consider ways to make these more outcome focused
		Align KPIs as much as possible with financial statements by using same material reporting segments
		Contextualize material KPIs by relating them to ecological limits, planetary boundaries, social concerns or geographies.
	Evidence of activities	Illustrate sustainability activities through relevant case studies, linked to a wider strategic program of management action and focused on outcomes
		Provide background on the development of strategic programs but focus on achievements, progress and challenges during the reporting year.
	Strategic partnership & collaboration	Focus on strategic partenerships and collaborations that address material issues (partnerships will be connected to business activities)
		Explain the strategic objectives in establishing a partnership /collaborations with stakeholders and demonstrate how this relationship creates synergy and value for the business.

Table A3 Experience criteria to improve effectiveness of non-financial reporting according to WBCSD. Source: WBCSD, 2014, p. 39-42.

		Key recommendations
Experience criteria	Accessibility	Promote report on the homepage
		Always have a PDF file available to download
		For those reports that self-declare GRI application levels or use in accordance options, include a GRI index
	Content architecture	Consider readers' needs, especially those who will engage within the content in detail and those only want the big picture
		Use a consistent layout for similar sections
		Create comprehensive content index
	Line of sight (how key aspects of reported content are connected)	Explain graphically or narrative how material issues relate to big picture hoals
		Consider other areas where line of sight connections can be reinforced (f.e. how corporate strategy, vision and missions relate to sustainability strategy)
		Ensure connects are made across related issues and content by cross-referencing and by using linking devices
	Information	Communicate core messages in a visually appealing way and incorporate clear

	presentation	information presentation throughout the report to improve understanding of complex issues.
		Use infographic elements to simplify content and photography to reinforce key messages
		Introduce color coding and graphic dividers to help readers navigate the report
		Avoid including too much information on one page

Annex III Different methodologies

Table A4 Methodologies to analyze the consequences of mandatory reporting

Author	Mandatory reporting leads to:	Method
Grewal et al., 2015	Positive market reaction, Improved operating performance	Quantitative, empirical cross-section analysis. Database. Sample exists of Bloomberg's 2014 population with ESG coverage. Uses both treatment and control group. Data is based on disclosure score of Bloomberg and MSCI (Morgan Stanley Capital International) ESG Research.
Ioannou and Serafeim, 2014	Improved firm valuation as consequence of regulation	Quantitative, empirical difference-in-difference analysis. Collected panel country level data on law and regulation from IMD World Competitive Report. Uses control group and treatment group.
Guenther et al.,2015	Improved operating performance	Quantitative, empirical analysis. Sample of 1120 companies. The research builds on a sample of companies that are in Global500, S&P500 and HTSE350. They collected data from the CDP Carbon Disclosure Score. They also collected data from Thomson Reuters Asset4 and Worldscope. Moreover, they used World Governance Index, GHG politics score of Germanwatch.
Christensen et al., 2015	Declining productivity	Quantitative, empirical analysis. Difference-in-difference analysis with both treatment group and comparison group. Research builds on a sample of 151 SEC registered firms. They collected existing data about incidence rate of citations for violations , and on mining-related injuries from The Mine Safety and Health Administration (MSHA).
Hahn and Lülfs, 2014	PR, greenwashing tendencies, No clear image long term value	Qualitative content analysis of sustainability reports. The sample consisted of sustainability (or CSR or Corporate Citizenship) reports of companies listed on the US Dow Jones Industrial Average Index and the German DAX Index. They used qualitative content analysis on the data extracted from the sustainability reports. Due to the exploratory nature, they used an inductive, interpretative approach for analyzing the data.
Habek and Wolniak, 2013	Lack new mindset / compliance, adequate tool for improving corporate sustainability practices	The authors performed a qualitative, conceptual analysis of several regulatory Instruments in European Union. Consequently, they conducted a qualitative, conceptual case study which implemented additional requirements concerning non-financial reporting
Kalkanci et al., 2012	Fear for drop in investor value	Authors conducted a quantitative, empirical analysis. The sample was only two competing consumer-goods firms. They collected the data by means of a survey: two sets of consumer choice experiments, performed online by the manager of the firms.
Camisón, 2010	Adoption of proactive environmental practice (in lesser extent then voluntary regulation)	Quantitative, empirical analysis. They performed a comparison on environmental behavior and results,. The sample was based on two databases: The first database comes from a larger Spanish researchproject, Cooperation, Learning, Innovation, Competences,and Knowledge (CLICK). The research methods they used were empirical, a quantitative survey and explorative, qualitative research. The second database included a sample that came from the study-panel The

		competitiveness of Spanish industrial firms, 1984–2006. The population was composed of Spanish industrial companies included in the Central Directory of Companies of the National Institute of Statistics (INE). Compilation of information was carried out through a postal autoadministered survey.
Jeffrey and Perkins, 2014	Increase of comparability and reliability of information	The authors conducted a qualitative, literature review and based on a conceptual analysis, they compared different conceptual reporting frameworks.
Delmas et al., 2010	Improved operating performance: Clean firms become cleaner. 'Dirty' firms are left relatively unchanged	Authors used quantitative, empirical OLS and IV interaction models. They analysed monthly firm-level fuel mix and program data from 145 of the largest investor-owned electric utility companies for the period 1995-2003. They used the database Annual Electric Power Database and Interstate Renewable Energy Council.
Bennear and Olmstad, 2008	Improved operating performance in relation to drinking water	Authors used a quantitative, econometric approach (difference-in-differences analysis). They used the data from 517 drinking water suppliers in US.

Table A5 Methodologies to analyze the consequences of voluntary reporting

Author	**Voluntary regulation leads to:**	**Method:**
Camisón, 2010	Adoption of proactive environmental practice (in higher extent then mandatory regulation)	Quantitative, empirical analysis. They performed a comparison on environmental behavior and results,. The sample was based on two databases: The first database comes from a larger Spanish researchproject, Cooperation, Learning, Innovation, Competences,and Knowledge (CLICK). The research methods they used were empirical, a quantitative survey and explorative, qualitative research. The second database included a sample that came from the study-panel The competitiveness of Spanish industrial firms, 1984–2006. The population was composed of Spanish industrial companies included in the Central Directory of Companies of the National Institute of Statistics (INE). Compilation of information was carried out through a postal autoadministered survey.
Kalkanci et al., 2012	Boost market share	Authors conducted a quantitative, empirical analysis. The sample was only two competing consumer-goods firms. They collected the data by means of a survey: two sets of consumer choice experiments, performed online by the manager of the firms.
Habek and Wolniak, 2013	Absence of general framework / no clear guidelines, Lack of comparability between reports, Lack of new mindset manager / compliance, Proper monitoring and enforcement	The authors performed a qualitative, conceptual analysis of several regulatory Instruments in European Union. Consequently, they conducted a qualitative, conceptual case study which implemented additional requirements concerning non-financial reporting
Cheng et al., 2014,	Confusion concerning ESG factors	The authors performed a qualitative, conceptual analysis and literature review.
Kamp-Roelands, 2011; Wallage, 2011;	Information not always sufficient from user perspective – gap between stakeholders and companies	The authors performed a qualitative, conceptual analysis and literature review.
Maas et al, 2014;	Difficult comparability	Quantitative, empirical analysis is performed. Data is collected by means of a survey performed online among 70 AIBs.
Kieft, 2013;	Difficult comparability	The authors performed a qualitative, conceptual analysis and literature review.

Eccles and Saltzman,2011;	Difficult comparability, Confusion concerning ESG factors, information gap between stakeholders and companies	The authors performed a qualitative, conceptual analysis and literature review.
Eccles et al., 2012	Difficult comparability, Confusion concerning ESG factors, information gap between stakeholders and companies	Quantitative, empirical analysis among 180 firms. They identify two groups of firms: those that have and those that have not embraced a culture of sustainability by adopting a coherent set of corporate policies. They collected data from the Thomson Reuters ASSET4 database (that provides data on the adoption or non-adoption of these policies). They also applied control group.

Table A6 Methodologies to analyze the barriers of non-financial reporting

Author	**Barriers of non-financial reporting**	**Method:**
Cheng et al., 2014	No engagement investor community, information not always sufficient for user perspective	The authors performed a qualitative, conceptual analysis and literature review.
Perego et al., 2016	No engagement investor community	Qualitative, literature review and conceptual analysis of the subject. Moreover, they collected data by means of interviews with three experts.
Christofi et al., 2012	Investors neither rewarded nor penalized firms for violating matters in corporate decisions	Qualitative, conceptual analysis. The purpose of this paper is to compare the sustainability disclosure methods-instruments practiced by the two most widely employed indexes/instruments (DJSI World and GRI-G3 Guidelines). This paper utilizes sample firms from the DJSI World Index and the GRI-G3 Sustainability Guidelines membership list to draw inferences on sustainability indicatorsof performance. The authors compare the GRI reporting guidelines with the disclosure indicators of the DJSI World.
Maas et al., 2014	Lack of comparability between reports	Quantitative, empirical analysis is performed. Data is collected by means of a survey performed online among 70 AIBs
Adams, 2015	Costs, lack of new mindset	The authors performed a qualitative, conceptual analysis and literature review.
Ramos et al., 2013	Lack of awareness at organisations and stakeholders	Quantitative, empirical analysis and case study. A questionnaire survey was designed to assess: (i) the use of EMS and EPE frameworks; (ii) practices connected with environmental and sustainability performance reporting in Portugal. Sample was considered all the member companies of the organization representing Portugal at the World Business Council for Sustainable Development (WBCSD) and BCSD Portugal 69 companies.
Eccles and Serafeim, 2011	information gap between stakeholders and companies	Quantitative, empirical analysis. Data collected from database of 2,255 companies, derived grom Sustainable Asset Management (SAM). The SAM database makes it possible to examine variations across countries. Analysed both Integration of Environmental and Social Information by Country and Investor Interest in Environmental and Social Information by Country, Controlling for Market Cap.
Kalkanci et al., 2012	Fear for drop in investor value	Authors conducted a quantitative, empirical analysis. The sample was only two competing consumer-goods

		firms. They collected the data by means of a survey: two sets of consumer choice experiments, performed online by the manager of the firms.
Lozano, 2013	Lack of inclusion of business and society guidelines	Qualitative content analysis of non-financial reports from fifty-three European companies, covering thirteen industries at A+ Global Reporting Initiative level and third party certified.
Habek and Wolniak, 2013	Proper monitoring and enforcement	The authors performed a qualitative, conceptual analysis of several regulatory Instruments in European Union. Concequently, they conducted a qualitative, conceptual case study which implemented additional requirements concerning non-financial reporting
Ioannou and Serafeim, 2014	Depends on social and environmental context and industry	Quantitative, empirical difference-in-difference analysis. Collected panel country level data on law and regulation from IMD World Competitive Report. Uses control group and treatment group.

Annex IV List of interviewees

Table A7 List of interviewees

Name	Organization	Interviewed on:
Marleen Janssen Groesbeek	Avans Hogeschool	7 December, 2015
Nick de Ruijter	Sustainalyze	7 December, 2015
Vicky van Heck	VBDO	7 December, 2015
Jacobine Das Gupta	DSM	10 December, 2015
Paul Hurks	NBA	10 December, 2015
Sharon van Ede	VNB	16 December, 2015