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Exploring sustainability reporting

The case of Brazil

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Abstract

Title: Exploring sustainability reporting – The case of Brazil

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Key words: sustainability reporting, Brazil, corporate sustainability index, Global Reporting Initiative, corporate social sustainability

Purpose: The purpose of this thesis is to describe sustainability reporting practices in Brazilian corporations listed on B3.

Methodology: The investigation for thesis was based on a content analysis. Sustainability information was defined according to the GRI standards provided by the Global Reporting Initiative and measured through the number of pages, words, tables, figures and diagrams.

Theoretical perspectives: This thesis uses previous academic and business related research for its theoretical perspective.

Empirical foundation: 12 English annual reports issued by 12 native Brazilian corporations during 2017 is the empirical foundation for this thesis.

Conclusion: The main results show that sustainability reporting practices by the utilities industry seem to differ from those of the consumer non cyclical and financial industries, but that reporting on environmental sustainability did not differ between these industries. Significant differences based on sustainability index participation were also found. More research on corporations' activities and socio-environmental contexts is needed to explain these results and more detailed research is needed in order to understand sustainability reporting completely.

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1. Background and problematization

The interest towards sustainability[1] has been growing since the middle of the 20th century until today (Carroll, 1999; Hahn & Kühnen, 2013). Sustainability has received attention from business executers (KPMG, 2011; 2015; 2017), researchers (Carroll, 1999; Fifka, 2012; 2013; Hahn & Kühnen, 2013), political bodies (Lozano & Huisingh, 2011; Dissanayake *et al.*, 2016; KPMG, 2017) and various other organizations (e.g. B3, 2018; Global Reporting Initiative, 2019a). Corporations in particular do not only affect their own workforce and supply chains, but are expected to participate in various practices such as society development and keep their environmental footprints as small as possible. For example, corporations need social licenses in order to access natural resources in Brazil and corporations therefore seek to add value to the local communities. By contributing to local communities, relationships with those communities are enhanced and the corporations can continue to do their businesses (Gill *et al.*, 2008; KPMG, 2017). It seems like corporations are expected to extend their sustainability contributions beyond the areas that are immediately affected by the corporations themselves and work for the greater good for all. This belief might derive from the belief that a corporation, compared to a human, has more power to affect the natural and societal environment and due to its larger impact on the mentioned environments (e.g. Fifka, 2013; Hahn & Kühnen, 2013; Alonzo-Almeida *et al.*, 2015; Hummel & Schlick, 2016), corporations are expected to do so as well.

So if it is deemed necessary for corporations to act sustainably and extend their sustainability work beyond their actual areas of influence, how do stakeholders gain knowledge about corporations' sustainability practices? The answer is sustainability reporting, which refer to corporations' communication about its impacts on sustainability. Sustainability reporting – regardless of whether it is communicated through sustainability reports (Hahn & Kühnen, 2013), integrated reporting (Global Reporting Initiative, 2019b), the internet (Gill *et al.*, 2008) or other media types – is important due to several reasons. One main reason for sustainability reporting is believed to be the increased stakeholder pressures for transparency about corporations' sustainability actions and implications on the society and environment (Welford, 2004; Gill *et al.*, 2008; Hahn & Kühnen, 2013; Alonso-Almeida *et al.*, 2015; Dissanayake *et al.*, 2016). As

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[1] Sustainability is a difficult word to define and this thesis will use the definition of sustainable development that was proposed by the World Commission on Environment and Development (1987) for reasons that are explained in part 2.1.

corporations report on sustainability, the transparency leads to better decision makings and enhances trust between the corporations and its stakeholders (Gill *et al.*, 2008; Global Reporting Initiative, 2019b). Other believed benefits are access to certain resources, strategic advantages, reputation and brand management (Gill *et al.*, 2008; Hahn & Kühnen, 2013; Orsato *et al.*, 2015). In sum, it is increasingly accepted that one of corporations' essential contributions to sustainability is through sustainability reporting (Hahn & Kühnen, 2013).

Especially the contents of sustainability reporting, i.e. what is communicated to the stakeholders, seems to have gained interests among researchers. Determinants of how and why corporations communicate sustainability have received a great deal of attention (Hahn & Kühnen, 2013; Fifka, 2013). For example, Fifka (2013) reviewed no less than 186 studies of sustainability reporting around the world. One conclusion drawn from those studies is that sustainability reporting differs between countries (Gill *et al.*, 2008; Matten & Moon, 2008; Fifka, 2013; Kumar *et al.*, 2015). Even though corporations' respective countries of origin seem to affect their sustainability reporting practices, most sustainability research has focused on developed countries, such as Anglo-Saxon and European contexts. With regards to the presumed lack of available materials to analyze, the absence of research on sustainability reporting in developing countries (Araya, 2006; Gill *et al.*, 2008; Belal & Momin, 2009; Fifka, 2013; Kumar *et al.*, 2015; Dissanayake *et al.*, 2016; Şener *et al.*, 2016) is not very surprising.

The limited research on sustainability reporting in developing countries that exist has shown that corporations in developing countries do not engage in sustainability reporting to the same extent as their Anglo-Saxon and European counterparts (Araya, 2006; Fifka, 2013; Dissanayake *et al.*, 2016). It has also been concluded that corporations from developing countries indeed report on sustainability, but in a different manner than corporations from developed countries (Muller & Kolk, 2009; Steurer & Konrad, 2009). These differences could be attributed to differences in institutional systems, level of development and recognition of sustainability as an important aspect (Welford, 2004; Matten & Moon, 2008; Gill *et al.*, 2008; Fifka, 2013). With regards to institutional systems, the degree to which governments and various associations influence businesses and the markets is said to be reflected in sustainability reporting practices. For example, European corporations are usually influenced by their government and associations to a higher extent than their American counterparts and therefore, European corporations are believed

to have a stakeholder focus while American corporations have a shareholder focus when it comes to their sustainability reporting practices (Hall and Soskice, 2001, Ehnert *et al.*, 2016). With regards to level of development and recognition of sustainability as an important aspect, the main focus of developing countries may indeed be economic development rather than sustainable business practices and reporting (Fifka, 2013). Nevertheless, some research suggests that sustainability reporting is practiced in developing countries, but that sustainability reporting of those countries differs from sustainability reporting in developed countries. In sum, it may be said that there are differences between sustainability reporting in developing and developed countries and these differences could be explained with differences in political, societal and economic conditions (Muller & Kolk, 2009; Steurer & Konrad, 2009). At any rate, sustainability research on developing countries is lacking.

That more research should be conducted on developing countries is all the more important because these countries are often less resilient to the consequences of unsustainable business practices (Smit & Pilifosova, 2001) and also account for a significant part of both the world's population and natural environment (Dissanayake *et al.*, 2016; Instituto Brasileiro de Geografia e Estatística, 2018). Furthermore, not all of the developing countries have low sustainability reporting practices (Fifka, 2012; KPMG, 2017). A very relevant example in this regard is Brazil (Araya, 2006; Belal & Momin, 2009), which had the third highest sustainability reporting rate (78 %) of 20 countries surveyed by KPMG in 2008 and shared the 6th place (88 %) together with Spain of the 33 countries surveyed in 2011 (KPMG, 2011). Even thought Brazil's sustainability reporting rate sank to 85 % during 2015 and 2017 and other countries have started to catch up (KPMG, 2017), it appears clear that Brazil have been leading in sustainability reporting (Fifka, 2012).

What further makes Brazil a country of great interest is its size. With over 200 million inhabitants and 8.5 million square kilometers (Instituto Brasileiro de Geografia e Estatística, 2018), Brazil is the fifth largest country by both inhabitants and surface area, and has considerable access to natural resources (Nölke, 2010; KPMG, 2017). Brazil had the eight highest gross domestic product in the world during 2017 (World Bank, 2019) and attracts foreign investors that require sustainable business practices (KPMG, 2017). Brazilian sustainability therefore does not only concern a large part of the world's population who live in Brazil, but also foreign investors, and

unsustainable business practices may affect a large part of the Earth's surface area. Based on this reasoning, it is of interest to understand how Brazilian corporations portray themselves to foreign investors with regards to sustainability. It is also generally urgent to expand the sustainability research with additional research on developing countries in order to better understand the whole picture of sustainability reporting. Accordingly, this thesis aims to shed some light on the Brazilian sustainability reporting context. So far, research on sustainability reporting has mainly focused on whether certain sustainability information is disclosed or not (Araya, 2006; Belal & Momin, 2009), rather than evaluating *how* and to *what extent* this information is disclosed (e.g. Ehnert *et al.*, 2016; Jain & Winner, 2016), which is the intention with this thesis.

1.2 Research purpose

The purpose of this thesis is to describe sustainability reporting practices in Brazilian corporations listed on B3.

1.3 Report outline

As the background and need for research on sustainability reporting in Brazil has been explained in the first chapter, the remaining chapters are distributed as follows:

Chapter 2: Sustainability and sustainability reporting – This chapter provides the theoretical foundation for this thesis, i.e. the definition of the sustainability concept; a brief background to the Global Reporting Initiative and sustainability reporting according to the Global Reporting Initiative; possible explanations to differences between countries' sustainability reporting practices and lastly, the sustainability reporting determinants (i.e. size, industry and sustainability index participation) used for this investigation.

Chapter 3: Method – Beginning with a description of how the sample was chosen, this chapter continues with information about how the content analysis was conducted based on Global Reporting Initiative references and four data formats, namely words, tables, figures and diagrams.

Chapter 4: Results and analysis – This chapter describes the main findings from the investigation conducted described in *Chapter 3: Method.* The findings and their respective analyses are divided into four categories: total sample and the three sustainability reporting determinants, namely size, industry and sustainability index participation.

Chapter 5: Discussion – A wider discussion about the findings from *Chapter 4: Results and analysis* is provided in this chapter. These findings are related to previous research and leads to the main conclusions of this thesis.

Chapter 6: Conclusions – Based on the conclusions reached in *Chapter 5: Discussion*, this chapter completes this thesis by providing the final remarks, contributions, limitations and suggestions for future research.

2. Sustainability and sustainability reporting

This chapter provides the theoretical foundation for this thesis. Beginning with a discussion about the sustainability concept, this chapter continues with discussing sustainability reporting from a Global Reporting Initiative perspective, why sustainability reporting may differ across the globe and finally, some factors that may affect sustainability reporting.

2.1 Understanding sustainability and sustainable development

Even though sustainability is a widely recognized topic and research has been devoted to conceptualize and define the concept of sustainability, scholars have not yet agreed upon a definition (Carroll, 1979; 1999; Dahlsrud, 2008). The actual term also varies from *social responsibilities* (Carroll, 1999) to *corporate sustainability* (Dyllick & Hockerts, 2002) to *corporate responsibility* (KPMG, 2011; 2015; 2017) to *corporate social responsibility* and *sustainability*. Today, the terms *corporate social responsibility* and *sustainability* are widely used in both business and academia. Sometimes the terms are used interchangeably as well (Fifka, 2012; Hahn & Kühnen, 2013; Jain & Winner, 2016; Global Reporting Initiative, 2019b). In order to not stir confusion and in accordance with the method described in chapter 3, the term sustainability will be used for this thesis.

Many scholars seem to substitute the definition on *sustainability* with a widely accepted definition on *sustainable development* (Perez-Batres *et al.*, 2012; Fifka, 2013; Alonso-Almeida *et al.*, 2015; Kumar *et al.*, 2015; Dissayake *et al.*, 2016; Şener *et al.*, 2016). This definition on *sustainable development* is also recognized by Global Reporting Initiative, i.e. the internationally recognized leading producer of sustainability guidelines (Fifka, 2012; Hahn & Kühnen, 2013; KPMG, 2015; 2017; Hummel & Schlick, 2016; Global Reporting Initiative, 2019a) and also the main element for the method (see chapter 3).

> Sustainable development is the development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

> World Commission on Environment and Development, 1987, 2:1

2.2 Global Reporting Initiative (GRI)

There seem to be an increasing trend to use reporting guidelines when a report is issued. Among sustainability reporting, the framework by Global Reporting Initiative (GRI) appear to be the most used reporting framework by far (Fifka, 2012; Hahn & Kühnen, 2013; KPMG, 2015; 2017; Hummel & Schlick, 2016; Global Reporting Initiative, 2019a). GRI has been regarded as a main driver for increasing sustainability disclosures (Hahn & Kühnen, 2013) and corporations all over the world use GRI to different extents when issuing reports on sustainability. The GRI framework is used by 75 % of the 250 largest corporations based on Fortune 500 ranking of 2016 (KPMG, 2017). Furthermore, KPMG (2017) found that 63 % of their sample of 4,900 corporations (that is, 100 largest corporations by revenue in 49 countries) used the GRI framework to some extent in 2017.

The main organizations involved in GRI's founding were the Coalition for Environmentally Responsible Economics, the Tellus Institute and United Nation's Environmental Programme. GRI was founded in 1997 as an attempt to develop an environmental reporting framework, but the goal was extended to include social, economic and governance sustainability aspects (Global Reporting Initiative, 2019c). The project aimed to enhance awareness and acceptance of sustainability reporting to an equal level as financial reporting (Dissanayake *et al.*, 2016).

Since the first version of the GRI guidelines were launched in 2000, additionally three versions have been launched (Global Reporting Initiative, 2019c). The third version of the guidelines, G3, incorporated quantitative and qualitative key performance indicators (KPIs) that assist the understanding and evaluation of sustainability performance (Dissanayake *et al.*, 2016). The latest version of the GRI guidelines, G4, was introduced in 2013 and incorporated Global Compact's 10 principles and issue areas. G4 was then updated to the GRI standards in 2016. Although the GRI standards include the fundamental features of the G4 guidelines, the language and specific requirements were clarified (Global Reporting Initiative, 2019c). Out of 2,230 corporations that used the GRI framework in 2016, KMPG (2017) found that 10 % used the GRI standards; 88 % used the G4 guidelines and 2 % still used the G3 guidelines.

In addition to the guidelines and GRI standards, guidelines for specific industries such as finance and food were introduced in 2008 (Global Reporting Initiative, 2019c). These guidelines are called Sector disclosures and are supposed to be used alongside the G4 guidelines or the GRI

standards. As of 2019, there are *sector disclosures* for ten industries and GRI plan to expand these guidelines with additional industries (Global Reporting Initiative, 2019d).

The perhaps most important aspect is that the GRI framework may be used to create a standardized language for and openness about sustainability reporting (Hahn & Kühnen, 2013; Ehnert *et al.*, 2016; Global Reporting Initiative, 2016). By issuing reports in alignment with GRI, corporations communicate their impacts on economic; environmental and social sustainability to their readers. Global Reporting Initiative (2019a) states that reports in accordance to GRI benefits corporations regardless of size and ownership. The believed benefits are similar to the believed benefits of sustainability reporting, and include for example improved stakeholder relations, trust, accountability and risk management while also contributing to the society through environmental preservation and society development.

2.2.1 Sustainability disclosures according to Global Reporting Initiative

Figure 1 shows an overview of GRI:s latest development of the GRI framework, the GRI standards. Series 100 (*Universal standards*) is the first of four series and consists of three standards. GRI 101 (*Foundation*) does not have any disclosures, but is a descriptive starting point for using the GRI standards which sets out reporting principles and requirements for issuing sustainability reports in accordance to GRI. The other two universal standards consist of disclosures. GRI 102 (*General disclosures*) concerns contextual information such as corporations' profiles, strategies, governance and more; while GRI 103 (*Management approach*) regards how significant sustainability topics are managed by corporations and should therefore be used alongside the topic specific standards (GRI series 200; 300 and 400) (Global Reporting Initiative, 2016).
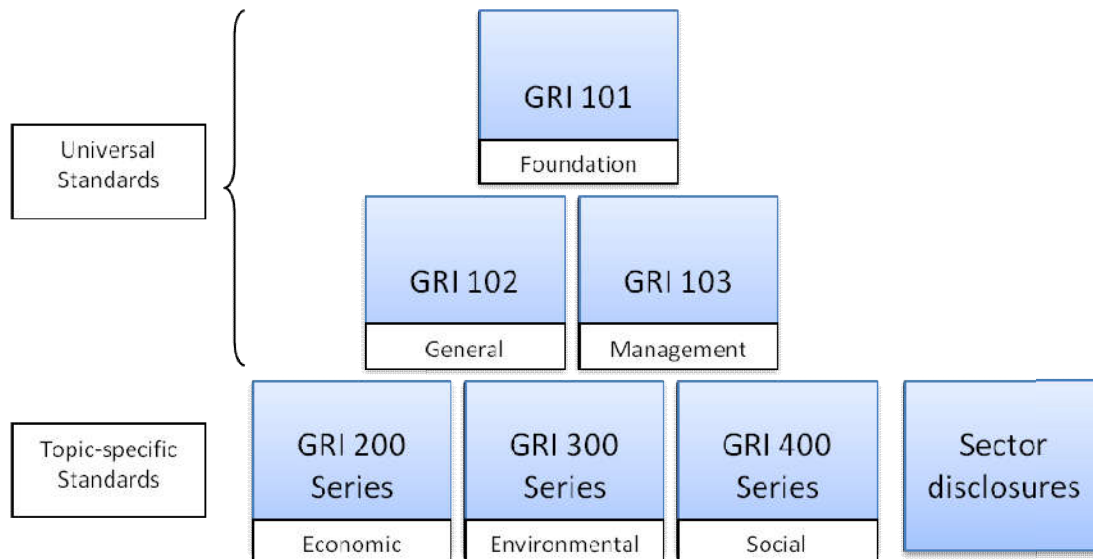
Figure 1: Overview of the GRI standards
Source: Global Reporting Initiative, 2016

The remaining three series consist of several topic specific standards and highlight important sustainability aspects according to their respective series. For example, the *economic sustainability* series (200) consists of standards regarding *economic performance* (GRI 201) and *anti-corruption* (GRI 205), while the *environmental sustainability* series (GRI 300) has standards about *energy* (GRI 302) and *emissions* (GRI 305); and the *social sustainability* series (GRI 400) concern for example *child labor* (GRI 408) and *security practices* (GRI 410) (Global Reporting Initiative, 2018). Additionally, the ten *sector disclosures* cover industries such as finance *services, electric utilities, food processing* and more (Global Reporting Initiative, 2019d). A complete list of the GRI standards can be seen in the appendix.

It is important to remember that only sustainability topics (and their corresponding GRI standards) that fulfill certain materiality requirements should be used by the reporting corporations. These requirements regard whether the sustainability topic to a significant degree (1) illustrates the corporation's sustainability impacts or (2) will influence stakeholder judgment. All corporations will therefore not use all topic specific standards, but rather use the standards that matter to the reporting corporation's specific situation (Global Reporting Initiative, 2016).

2.3 Sustainability reporting around the globe

It was not until the 1970s that companies would disclose non-financial information to any meaningful extent. At that time the focus was on the social dimensions of corporate activities and most of the corporations partaking were headquartered in Western Europe. During the following decades there was a turn towards environmental reporting (Fifka, 2012; Hahn & Kühnen, 2013). Following Elkington's (1997) suggestion to report on economic, environmental and social issues in the now famous Triple Bottom Line-approach, most of the largest corporations across the globe are now issuing some sort of sustainability reporting, often in line with GRI's recommendations (KPMG, 2011; 2015; 2017). In 2011, the International Integrated Reporting Council was established to benefit the integration of financial, social and environmental value creation in a single report. While the focus currently moving towards integrated reporting, the intended recipients seem to shift from shareholders to stakeholders (Fifka, 2013).

Despite these general trends, it is commonly accepted that the reporting practices of corporations from various countries differ from each other for a variety of reasons such as regulations and cultures (Kumar *et al.*, 2011; Hummel & Schlick, 2016). In the search of sustainability reporting determinants, Fifka's (2013) reviewed 186 studies and found that those studies that have researched for country influence on sustainability reporting are in agreement – nationality does matter for sustainability reporting. Unfortunately, it is less clear which country characteristics that are significant due to the complexities of understanding what impacts reporting. This section will highlight some of the most likely explanations.

2.3.1 Comparative capitalism

In the varieties of capitalism approach, Hall and Soskice (2001) distinguish liberal market economies (LMEs) from coordinated market economies (CMEs). Corporations headquartered in LMEs, best exemplified by the Anglo-Saxon countries, are typically characterized by behavior that reflects value and accountability for shareholders along with low engagement with unions and other internal stakeholders (Ehnert *et al.*, 2016). In the United States, for example, corporations use sustainability practices such as sustainability reporting in order to increase shareholder value and assure shareholders of their sustainable practices (Fifka, 2013). This appears to be both due to regulatory and cultural factors.

In contrast, corporations based in CMEs (such as Germany and the Scandinavian countries) tend towards being subject to internal stakeholder (e.g. employee associations) pressures through various mechanisms such as regulations (Hall and Soskice, 2001, Ehnert *et al.*, 2016). As regards sustainability reporting there has been a greater adherence to voluntary frameworks such as the GRI in LMEs, although some recent research suggests that the difference may be less important than expected (Ehnert *et al.*, 2016).

One of the key differences between implementations of a capitalist system is the degree and style of government involvement in the market. European governments are more involved in both economic and social activities compared to its American counterparts. For example, the extent to which governments engage in training and labor policies differ greatly between the European countries and the United States. While European countries have heavy labor policies and European governments are involved in training and education to a wide degree, the United States trust these aspects to the markets themselves. That is, training and labor issues are handled by the American corporations themselves rather than on a national level. Furthermore, Europeans tend to gather together in associations representing corporations, employers or employees and thereby handle labor issues on another level than the corporation itself. In the financial aspect, American corporations seek financial capital from stock markets, which require those corporations to have transparency and accountability towards investors. European countries, on the other hand, use a small number of large investors and banks, bringing stakeholders rather than shareholders into focus (Matten & Moon, 2008).

Welford (2004) concludes from his study of European and Asian countries that corporations' sustainability activities reflect what is important in their respective countries. Japan, for instance, is sometimes treated as a CME (Ehnert *et al.*, 2016), which indicates that it is a mature market economy in structural terms. Contrary to what may be expected, many Japanese corporations appear to have fallen behind on sustainability reporting (Fukukawa & Teramoto, 2009). More than anything else, however, this is an expression of a different corporate culture, suggesting that, while important, a comparative capitalism-perspective is insufficient to explain country-specific differences in sustainability reporting on its own. Additionally, Hall and Soskice's system is developed with mature economies in mind, and while there have been attempts to apply similar analyses to developing economies, including Brazil (Nölke, 2010), there is a need for further

research on the relationship between the capitalist systems of such economies and sustainability reporting.

The main point of this discussion is that different countries have different ways to organize themselves which in turn influence corporations' self-perceived role in society. Differences such as the above discussed shareholder or stakeholder focus, importance of association participation and government involvement in the market may in turn lead to variations in the handling of employment and consumers, and thereby variations in sustainability reporting (Matten & Moon, 2008).

Unfortunately it is not so simple as to divide the world's capitalist economies on a bipolar axis and not all countries seem to fit on this axis (Nölke, 2010; Ehnert *et al.*, 2016). For example, Ehnert *et al* (2016) suggested that corporations in CMEs disclose more on labor issues than corporations in LMEs, but these differences were not as distinct as they were expected to be. Other factors such as a country's degree of economic development appear to be central for understanding international differences in sustainability reporting (Welford, 2004).

2.3.2 Sustainability reporting in developing economies

One of the reasons why sustainability reporting appears to be falling behind in some developing countries may be related to a matter of focus. The top priority of developing countries may be economic development in the competitive global market, and therefore sustainability may not be of the same importance as in countries which already are developed (Fifka, 2013). This does not have to be the case, as KPMG (2017) reports that several developing countries (such as India, Malaysia and Brazil) have leading sustainability reporting rates. Even though developing countries may recognize the importance of sustainability and sustainability reporting, sustainability information may not necessarily be reported in the same manner as Western corporations which are typically better known by English-language researchers (Welford, 2004; Fifka, 2012).

Welford (2004) received a lower response rate from less developed countries compared to more developed countries and speculates that sustainability was more important in the latter countries compared to the former ones. The speculation by Welford (2004) could be compared with Muller

and Kolk (2009) who argues that sustainability exists in Mexico, but that the Mexican sustainability perspective diverges from corresponding perspectives in Anglo-Saxon and Western European countries. The differences derive from specificities in political and societal aspects which in turn suggest that sustainability reporting is not necessarily lagging behind in developing countries, but rather differs from sustainability practices in developed countries. Steurer and Konrad (2009) found a number of differences in reporting practices between Western and Central Eastern European corporations. Economic and social conditions were argued to be the reason for these differences. Moreover, the major corporations were not as distant as may have been expected, which in turn indicates a convergence among larger corporations (see also Ehnert *et al.*, 2016). The convergence may be a consequence of the common language universal reporting standards such as GRI try to establish (Hahn & Kühnen, 2013; Ehnert *et al.*, 2016) or other demands resulting from globalization.

Such questions are difficult to answer because there is a relative shortage of research on less developed countries (Gill *et al.*, 2008; Belal & Momin, 2009). Even if this research gap has become smaller during the past two decades, it does definitely remain. Cultural priorities do matter for reporting because there are country specific differences that regard the social role of corporations (e.g. Matten & Moon, 2008). Linguistic differences may be one reason to why this research gap remains as reporting practices (and research on such practices) in languages other than English may be underprivileged by researchers (e.g. Fifka, 2012). However, the available research suggests that corporations from less developed countries have typically disclosed less sustainability information (Welford, 2004) and that sustainability reporting differs between countries (Fifka, 2013), but that the tendency is towards convergence (e.g. Steurer & Konrad, 2009; Ehnert *et al.*, 2016).

In conclusion it may be said that while research indicates that sustainability reporting depends on national context, the complexities of a highly globalized economy makes it difficult to isolate the likely factors from the less likely ones. One reason for this difficulty may be that most research is based in Western or Anglo-Saxon context and on the largest multinational corporations. Another issue is that research appears to be falling behind practice, i.e. it is not always clear how corporations choose to disclose their sustainability information (Fifka, 2012). Nevertheless, the

research cited above indicates that a mixture of economic, cultural, political, historical and regulatory factors may influence sustainability reporting.

2.3.3 The case of Brazil

The first Brazilian sustainability report is believed to have been published in 1986 as a reaction to the growing sustainability reporting in Europe during the 1980s. But it was not until the late 1990s that corporations were urged to publish *Balanço Social* (i.e. social reports) by the Brazilian Institute for Social and Economic Analysis. Sustainability was further enhanced with the establishment of the Ethos Institute in 1998, which does not only promote sustainability but also develops sustainability performance indicators in order to assist corporations with their sustainability reporting. Sustainability awareness has since then grown in Brazil, which can be illustrated by award schemes, annual forums, publications and more (Araya, 2006).

One feature which is not unique to the Brazilian stock market, yet something which materialize Brazil's willingness to enhance sustainability reporting is Índice de Sustentabilidade Empresarial, or in English: the Corporate Sustainability Index (ISE). ISE was first launched in 2005 and stems from collaboration between one of Brazil's stock markets, B3 (formerly BM&FBOVESPA) and 11 other institutions such as the International Finance Corporation, Brazilian Institute of Corporate Governance and the Brazil Environment Ministry (B3, 2018). The index consists of 30-40 stocks from the 200 most liquid stocks traded on B3 (BM&FBOVESPA, 2017), representing corporations with leading practices in the following areas: economic, environmental, social and corporate governance (Araya, 2006). It is believed that ISE enhances sustainability in several ways. First, it is a tool to compare the performances of different corporations from a sustainability perspective (B3, 2018). Second, companies that wish to be listed on ISE may improve their sustainability reporting and corporate governance (Araya, 2006). Third, ISE raise awareness about corporations that engage in sustainability activities (B3, 2018).

2.4 Sustainability reporting determinants

Reporting corporations' country of origin is not the only factor that affects sustainability reporting. While there are several believed sustainability reporting determinants, such as financial

performance, public pressures and external assurance (Fifka, 2013; Hahn & Kühnen, 2013; Hummel & Schlick, 2016), this study focuses on two of the most common determinants – namely size and industry. This choice stems from the combination of mixed results and limited research regarding other sustainability reporting determinants (Fifka, 2013; Hahn & Kühnen, 2013) Hummel & Schlick, 2016), and it is believed that even the most common determinants should be evaluated in a relatively unexplored sustainability context such as Brazil (Belal & Momin, 2009; Fifka, 2012).

Furthermore, the Brazilian stock market B3 has a relatively unique feature, namely Índice de Sustentabilidade Empresarial, or in English: the Corporate Sustainability Index (ISE), which is believed to enhance sustainability reporting (Araya, 2006; B3, 2018). Therefore, this study also aims to investigate sustainability reporting differences with regards to the issuing corporations' participation in ISE. While ISE membership is not a determinant in the strict sense, it will be referred to as such alongside size and industry for the sake of convenience.

2.4.1 Size

Size is a commonly researched determinant of sustainability reporting and plenty of research indicates a positive relationship between size and extent of sustainability reporting (Belal & Momin, 2009; Fifka, 2012; 2013). So why are larger corporations expected to disclose more information compared to smaller corporations? The key assumption is that larger corporations are more visible due to their size and thereby more exposed to stakeholder pressures. As larger corporations have larger impacts on sustainability and at the same time are watched by plenty of stakeholders and media, larger corporations are required to disclose more information in order to monitor stakeholder relations. Additionally, the cost to produce sustainability information is more severe for smaller companies, making it more desirable for larger corporations to produce and report sustainability information (Fifka, 2013; Hahn & Kühnen, 2013; Alonzo-Almeida *et al.*, 2015; Hummel & Schlick, 2016).

2.4.2 Industry

It appears to be widely acknowledged that the industry in which the corporation belongs to affect the corporation's sustainability reporting. For example, Paul *et al*. (2006) conclude in their study of 75 Mexican corporations that industries (in this case petroleum, cement, tobacco and chemical industries) that receive criticism from the public issue sustainability reports. Sen *et al*. (2011) state that some industries (oil and petrochemicals; mining and minerals; steel and cement) impact the environment the most and hence, corporations in those industries should disclose more environmental information. There are also findings that industrial corporations disclose more sustainability information compared to the non-industrial corporations (Kumar *et al.*, 2011), and that education is a prioritized topic for corporations within the telecommunication and information technology industries (Jain & Winner, 2016).

Corporations in environmental sensitive industries (i.e. industries with high pollution) are believed to receive more criticism from the public. This type of stakeholder pressure (public criticism) urges these corporations to disclose more information about their environmental impacts in order to protect their reputation and be able to continue to do their businesses (Campbell, 2003; Araya, 2006; Fifka, 2013; Alonzo-Almeida *et al.*, 2015). In other words, if corporations are regarded to have considerable impacts on something and thereby receive criticism from the public, these corporations will disclose more information on the topics in question. By communicating to stakeholders about the corporations' sustainability efforts, legitimacy and reputational issues from stakeholder pressures (e.g. public criticism) may be minimized (Campbell, 2003; Hahn & Kühnen, 2013).

2.4.3 Sustainability index participation

As of 2015, there are approximately 8 sustainability indices around the world, whereas Dow Jones Sustainability Index launched in 1999 by the New York Stock Exchange is believed to be the first sustainability index (Orsato *et al.*, 2015). The Brazilian Corporate Sustainability Index, Índice de Sustentabilidade Empresarial (ISE), was launched in 2005 and stems from collaboration between one of Brazil's stock markets, B3 and 11 other institutions such as the International Finance Corporation, Brazilian Institute of Corporate Governance and the Brazil Environment Ministry (B3, 2018).

The extent of corporations' sustainability contributions may be indicated with sustainability indices as participation in sustainability indices requires corporations to have leading sustainability commitments. Indices are theoretical portfolios of remarkable sustainable corporations which are believed to benefit both the participating corporations themselves and investors. Similar to why organizations report on sustainability, participation in sustainability indices are believed to have reputation benefits, comparative advantages and be a source of knowledge between the participating corporations. With regards to investors, sustainability indices may serve as benchmarks to assist their decision making processes (Orsato *et al.*, 2015).

In order to participate in the Brazilian corporate sustainability index (ISE) corporations need to have eminent sustainability reporting in comparison to other corporations on B3. It may therefore be assumed that corporations that which to be listed on ISE work towards enhancing their sustainability reporting (Araya, 2006). Orsato *et al.* (2015) conclude that when corporations seek to integrate sustainability and business strategies, ISE participation follows as a natural consequence of those integration efforts. The participation in ISE therefore did not have any connection to valuation of the corporations' shares on the basis of sustainability performance, but rather an outcome when corporations emphasize sustainability in their business strategies (Orsato *et al.*, 2015). As corporations listed on ISE are believed to lead the sustainability reporting in Brazil (Araya, 2006) and corporations which make sustainability efforts also participate in ISE (Orsato *et al.*, 2015), it may be assumed that there are differences in sustainability reporting depending on the issuing corporations' participation in ISE.

3. Method

This chapter provides the two essential parts of this thesis' investigation. The first part describes the selection of the sample while the second part describes how the content analysis was conducted.

3.1 Sample

A sample from the Brazilian stock market B3 was chosen in order to describe Brazilian sustainability reporting. Out of the 430 corporations listed on B3 as of March 2019, a total of 64 sustainability reports from 2017 were found, corresponding to 81 corporations in total. These reports were based on the criteria that they should be in English due to language limitations of the researcher and that they should use the Global Reporting Initiative (GRI) framework. 2017 was the most recent completed fiscal year to which reports had been issued and therefore, historical events will not impact the results (Hahn & Kühnen, 2013).

14 reports were deleted from this list due to the following reasons: the corporation had a foreign parent (8), broken fiscal year (3), not downloadable report (2) and the corporation that issued one report belonged to two industries (1). The reason for excluding corporations with foreign parents was to capture the case in Brazil by using native Brazilian corporations rather than corporations influenced by other countries' reporting practices (e.g. Ehnert *et al.*, 2016). Furthermore, the other 4 reports were excluded in order to make the sample more uniform and hence more comparable.

These 64 reports were then divided into whether the reports were issued by ISE (26) or non-ISE corporations (24). 8 reports issued by ISE corporations were excluded as the corporations did not participate in ISE during 2017 but rather been part of the ISE index during earlier years. These corporations were excluded because it was not possible to ascertain if those corporations had been excluded from the ISE index because they did no longer meet the criteria of the index. As this thesis aims to check for differences in reporting based sustainability index participation, it was concluded that the 2017 sustainability reports issued by ISE corporations needed to be issued during the time the corporations actually participated in the ISE index.

The remaining 42 reports were divided into the first level industry classification as found at B3 and seen in table 1 below. There were 18 reports issued by ISE corporations and 24 reports issued by non-ISE corporations.

Table 1: Industries

Industry	ISE	Non-ISE
Basic Materials	2	2
Capital goods	2	3
Consumer Cyclical	3	6
Consumer Non Cyclical	2	4
Financial	4	3
Information technology	0	1
Health	1	1
Telecommunications	0	1
Utilities	4	3
Total	18	24

Two ISE corporations and two non-ISE corporations from each of the eligible industries were going to be investigated as the thesis aimed to investigate differences based on sustainability index participation, see part 2.4. Three industries (*information technology*, *health* and *telecommunications*) were therefore excluded due to a lack of reports. The *basic materials* industry was also excluded due to difficulties in comprehending how one of the reports used the GRI framework. Table 2 shows the five remaining industries.

Table 2: Industries after exclusion

Industry	ISE	Non-ISE
Capital goods	2	3
Consumer Cyclical	3	6
Consumer Non Cyclical	2	4
Financial	4	3
Utilities	4	3
Total	15	19

A total of 12 corporations' reports from three industries were included in the final thesis. The chosen industries were the consumer non cyclical industry, which included three food processing and one manufacturing corporation; the financial industry, which included banks; and the utilities

industry, which included energy producers. From each of these three industries, two ISE and two non-ISE corporations' reports were selected randomly. In other words, a total of 12 corporations' reports were included in the final thesis. This number is too small to achieve statistically significant results if it were a pure random sample and therefore, no statistical tests have been conducted. However, it is not completely new to use a small sample while conducting a content analysis. Campbell (2003) selected two corporations from a range of industries to cover as diverse ground as possible. Steurer and Konrad (2009) in their research on Eastern European sustainability reporting faced a situation where most corporations did not use the GRI framework. They were therefore forced to adapt their methodology accordingly and used a relatively small sample size. Aside from these examples, it is also important to keep in mind the relatively mature status of sustainability research in general (Fifka, 2013) and that the present study seeks to describe sustainability reporting in Brazil rather than explain differences in sustainability reporting.

There are some additional limitations that come with this sample choice. First, Brazilian corporations which conduct their reports only in Portuguese are not regarded in this thesis. With regards to that 430 corporations were listed on B3 as of March 2019 but only 64 reports in English were found, it is believed that the large portion of information in Portuguese could not be collected. Furthermore, there is a risk that Portuguese reports differ from English reports with regards to contents. Reporting is a stakeholder communication tool (Hahn & Kühnen, 2013; Alonso Almeida *et al.*, 2015) and there is a desire to attract foreign investments among Brazilian corporations (KPMG, 2017). Hence, English reports may be directed to foreign investors, while Portuguese reports may be directed to stakeholders who know Portuguese (e.g. Brazilian authorities). And even though some corporations may directly translate their reports from one language to another, direct translations may also result in information loss (e.g. Fifka, 2012).

However, as the method focused on the amount of words, tables, figures and diagrams that referred to GRI standards rather than the actual content and meaning behind the words, this limitation was not deemed crucial for this thesis. Nevertheless, the language choice was deemed a necessity and it is important to keep in mind that national Brazilian corporations which do not address foreign stakeholders were not regarded in this thesis. Hence, the results of this thesis cannot be generalized to all Brazilian corporations (e.g. Fifka, 2012).

Another limitation may be the choice of media type. This thesis excludes other media types than reports, such as sustainability information on websites, as a consequence of the choice to use the GRI framework as a measurement of sustainability. As the GRI framework is, to the author's knowledge, only used in sustainability, annual and/or integrated reports (i.e. the GRI framework is not used with other media types such as on websites), it would not be possible to use the GRI framework as a measurement of sustainability if other media types were considered. It would also limit the comparability if findings between different media types were to be compared to each other rather than comparing findings from within the same media type. Hence, it is acknowledged and accepted that conclusions drawn from the result of this investigation cannot be generalized to all different types of reporting in Brazil and that other media types might report on other sustainability issues (e.g. Chen & Bouvain, 2008; Jain & Winner, 2016).

3.2 Content analysis

A content analysis will be conducted in order to examine the sustainability contents of the above mentioned reports. Content analyses have been widely used when trying to identify what different corporations report, how much they report (Pérez & Rodríguez del Bosque, 2014) and to find differences in reporting practices (Fifka, 2012; 2013). Furthermore, comparability is increased as content analyses dominate the sustainability research (Belal & Momin, 2009; Fifka, 2012).

Content analysis is a convenient method which allows objectivity due to several reasons. First, the method is about categorizing data according to specific rules which limits the researcher's personal bias. Second, if the method is described in great detail, transparency leads to the possibility to replicate the study. Third, the method does not involve any communication with those from which the data is gathered from (in this case the corporations described in part 3.1). As the reports probably are directed towards stakeholders rather than possible researchers, biases towards the research are limited (Bryman & Bell, 2011).

3.2.1 Coding manual

This study aims to explore sustainability reporting in Brazil and has identified three sustainability reporting determinants that will be used as a basis to evaluate the sustainability reporting practices, namely size, industry and sustainability index participation. Size was based on number of employees as found in the corporations' reports (e.g. Hahn & Kühnen, 2013), while industry was based on B3's own industry classification on their website and sustainability index participation also was found on B3's website.

The sustainability topics were measured by using the GRI framework, or more specific the GRI standards discussed in part 2.2. It may be questioned whether the GRI standards actually is a valid measurement of sustainability. There are primarily two aspects that give raise to these questions. First, the GRI standards may not cover all sustainability topics and second, the references to the GRI standards are made by the corporations themselves, which in turn makes the data dependent upon the actual people who issue the reports. With regards to the first aspect that the GRI standards might not cover all sustainability topics, it is important to remember that sustainability is not a clearly defined concept and therefore up to personal judgment (Carroll, 1979; 1999; Dahlsrud, 2008). It is not possible to evaluate if sustainability topics that are not covered by the GRI standards have been overseen as there is no way to ascertain which topics that do or do not belong to sustainability. With regards to the second aspect about biases towards the issuing corporations, Ehnert *et al.* (2016) argue that due to the GRI framework's standardized characteristics, which aim to create a common language between different reporters regardless of the reporters' characteristics (see also Hahn & Kühnen, 2013; Global Reporting Initiative, 2016), subjectivity may be limited. Furthermore, as the vast majority of sustainability researchers have used GRI as a measurement of sustainability (Fifka, 2012), it is acknowledged and accepted that the data may to some extent be subjective towards the issuers of the reports.

3.2.1.1 Categorization of report contents

A total of 43 categories were identified and used to categorize the data from the sample described in part 3.2. How the data was categorized using data levels is shown in figure 2. Total level was the highest level and this level includes the category total data, whereas the whole report was counted in order to find out how much of the report that actually had any sustainability

information (data with GRI standards). In other words, both data with and without references to the GRI standards were added to the total data category.

Total level		Total Data			
GRI level		Total GRI			
Series level	GRI 100	GRI 200	GRI 300	GRI 400	Sector disclosures
Standard level	GRI 102	GRI 103	GRI …		
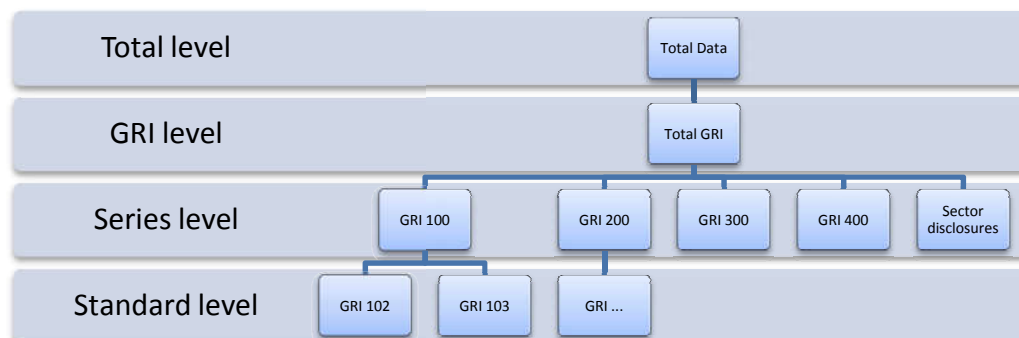
Figure 2: Coding manual

A full list of the GRI standards is shown in the appendix. The data with GRI references were further categorized into three levels; the GRI level; the series level (4 series and sector disclosures) and the standard level (36 standards). The GRI level was used to count all sustainability data, regardless of which GRI reference the data had. The series level was used to count sustainability data based on the four GRI series, i.e. *universal* (GRI 100); *economic sustainability* (GRI 200); *environmental sustainability* (GRI 300); *social sustainability* (GRI 400), but also *sector disclosures*. Finally, the standard level was used to count sustainability data based on the respective GRI standard as shown in the appendix. Figure 2 does not show the GRI 101 standard (*Foundation*) as this standard does not have any disclosures and reports therefore do not have any references to this standard (Global Reporting Initiative, 2016). Categorizing the data into four levels enables the possibility to analyze the data in great detail, but also zoom out and analyze from a wider perspective if necessary.

For example, if the data had a reference to GRI 102, it would be put into four categories: total data (total level); total GRI (GRI level); GRI 100 (series level) and GRI 102 (standard level). If the data had several GRI references, e.g. if the data had references to both GRI 102 and GRI 201, it would be put into the following categories: total data (total level); total GRI (GRI level); GRI 100 (series level); GRI 102 (standard level); GRI 200 (series level) and GRI 201 (standard level). If the data had several references to the same GRI series, e.g. GRI 102 and GRI 103, it would

only be put in the series level (GRI 100) once. By doing this, the data was not double counted on its respective levels. However, it will be difficult to compare between levels of data and adding the data from all categories in a lower level will not equal the data on a higher level. E.g. all data for GRI 102 and GRI 103 (standard level) does not equal the data in the GRI 100 (series level).

3.2.2 Data formats

For each page in the 12 reports, the data formats described below (i.e. words, tables, figures and diagrams) were collected in the above described categories. Gathering the data based on pages enabled two possibilities. First, it was easy to review the data and ensure that the below described data formats were counted correctly. Second, it was possible to know the number of pages that include data based on different categories as described above. For example, if there was a reference to GRI 102 and GRI 103 on the same page, it would be added to the following categories: total data (total level); total GRI (GRI level); GRI 100 (series level); GRI 102 (standard level) and GRI 103 (standard level).

3.2.2.1 Words

In order to describe Brazilian sustainability reporting, the content analysis was based on counting words. Words were chosen instead of paragraphs or sentences as one paragraph or sentence could be of a different length and contain a very different amount of information compared to another. A word can also be seen as the smallest text unit which gives any information and is commonly used for content analyses in sustainability reporting research (e.g. Campbell, 2003). Counting words further takes the *extent* of the topic into account rather than simply the *existence* of the topic. It is in this aspect words may be used as indicators of importance, as more words (or longer disclosures) require more work. Corporations are believed to dedicate more work to a topic that is important in comparison to a topic that is less important to the corporation (Campbell, 2003; Ehnert *et al.*, 2016). Nevertheless, words may also be preferably used in comparison to other data formats when the information has the potential to put the reporting corporation in a bad light, as will be shown in the next part regarding tables, figures and diagrams (Hummel & Schlick, 2016).

The data format *Words* includes text masses/bodies of copy and bulleted lists, but does not include headlines, footnotes and text written in the margins that had another formatting than the main text in the report. As long as these format requirements were fulfilled, different backgrounds or colors of the text masses did not matter.

3.2.2.2 Tables, figures and diagrams

While counting words is a way to capture the extent of information provided in reports, solely counting words does not in any means capture *all* information in the reports. The relevant argument here is that information is not only conveyed through words, but also through other formats such as tables, figures and diagrams. These formats are visually different from text masses but no less information carriers. Whether words, tables, figures, diagrams or even other data formats should be used depends upon what reporting corporations wants to communicate to their readers. While some information is best expressed by using words, tables may be the preferred data format for numbers and diagrams may be better to use to show patterns (e.g. Grant, 2018). In order to describe sustainability reporting in Brazil and in some way try to measure a wider extent of information providers, tables, figures and diagrams were also counted.

Although this is not equal for everyone, text (and to some extent tables) are boring while figures and diagrams are more eye-catching. The reason for this difference is that humans by nature are more interested in objects, patterns and colors than plain text or numbers. Not all readers bother to go through words and tables, so if reporting corporations really wants to communicate certain messages to their readers, it is perhaps better done visually (Grant, 2018). Supposing that reporting corporations know that human eyes are drawn to visually appealing formats such as figures and diagrams, it is to be expected that information which puts the corporations in the good light is presented in these formats, while information about poor or unpleasing performances that may harm the reporting corporations' reputations is disguised in words and tables.

Furthermore, counting tables, figures and diagrams may help to bring a qualitative aspect into the data which counting words perhaps cannot do. In order to explain this reasoning, it is necessary to discuss key performance indicators (KPIs). KPIs are usually numbers that shows the link between corporations' sustainability activities and sustainability outcomes in a transparent way

that may increase reporting value. The importance of sustainability KPIs can be exemplified by Global Reporting Initiative which included sustainability KPIs in the third version of the GRI guidelines (G3) as it may support the comprehension and evaluation of sustainability performance (Dissanayake *et al.*, 2016). Due to its numerical nature, KPIs are often quantifiable and objective and therefore may enhance reporting quality (Hahn & Kühnen, 2013). It has been argued that corporations with superior sustainability performances use high quality disclosure such as numerical data (KPIs) to show their true performances while corporations with poor sustainability performances use low quality disclosure such as words (Hummel & Schlick, 2016). Now when the importance of KPIs as quality indicators is established, it is important to remember that KPIs usually are numbers. Numbers (and therefore also KPIs) are preferably shown in tables and diagrams (Grant, 2018) and perhaps also in figures. This reasoning leads to the conclusion that tables, figures and diagrams may be indicators of KPIs, which in turn may be high quality sustainability reporting indicators.

Similarly with how the words were counted in this method, the name of the table, figure or diagram was regarded as a headline and therefore not included in the total data for the table, figure or diagram. If the data object could not be regarded as a text mass, a table or a diagram but was regarded as something that could not be excluded, the data object was placed in the figure category.

4. Results and analysis

This chapter provides the main results and analysis of the data. First, the main results from the aggregated total sample are discussed, followed by a short analysis on the results. The following three parts discusses the main results and analysis for each of the sustainability reporting determinants, i.e. size, industry and lastly, sustainability index participation. Finally, a short summary with the main results and remarks from this chapter is provided. It should be noted that the use of italics refers to GRI series such as *economic sustainability* (200 series) whereas economic sustainability without italics denotes the general concept.

4.1 Total sample

The total sample consists of 12 reports from three industries. The consumer non cyclical (CNC) industry consists of three food processing corporations and one manufacturing corporation. As there is no sector guideline for manufacturing corporations, the corresponding sector guideline for the CNC industry is *Food Processing* (FP). The financial industry consists of banks and its corresponding sector guideline is *Financial Services* (FS), while the utilities industry consists of energy corporations and its corresponding sector guideline is *Energy Utilities* (EU), as shown in the appendix.

Furthermore, two reports in each industry were issued by corporations that participated in Brazil's corporate sustainability index ISE during 2017, and two reports in each industry were issued by corporations that never have participated in the ISE index. The ISE corporations have participated in ISE between 8 and 12 times since the index was launched in 2005, meaning that some of the corporations have been part of ISE since its introduction, and the other corporations have participated in ISE most of the years since ISE was launched. The non-ISE corporations have not participated in ISE during any of the years since ISE was launched in 2005.

4.1.1 Results

Table 3 shows that the aggregated data from the 12 reports divided into data formats (i.e. pages, words, tables, figures and diagrams). In other words, the reports consisted of a total of 1,494

pages; 271,578 words; 770 tables; 90 figures and 213 diagrams. The table further shows that 857 pages; 158,033 words; 557 tables; 51 figures and 120 diagrams had any sustainability information (i.e. any reference to the GRI standards). In other words, more than 50 % of the total data of each data type (57.36 % pages, 58.19 % words, 72.34 % tables, 56.67 % figures and 56.34 % diagrams) had any sustainability information.

Furthermore, table 3 shows sustainability information on a series basis, as discussed in part 2.2.1 and shown in the appendix. *Universal* refers to the general 100 series, while the topic specific series are represented by *economic sustainability* (200 series), *environmental sustainability* (300 series) and *social sustainability* (400 series). Finally, *sector disclosures* refer to sector specific guidelines.

Universal is the most reported series when it comes to all data formats (pages 40.63 %; words: 40.29 %; tables 24.42 %; figures 43.33 %; diagrams 27.23 % of total data). Of the remaining data, *social sustainability* is reported on more than twice the number of pages compared to the other series (327 pages or 21.89 % of total report). More than every 5th page refers to *social sustainability* while the remaining series (except *Universal*) are represented on less than every 10th page (9.57 % for *economic sustainability*; 9.30 % for *environmental sustainability* and 7.16 % for *sector disclosures*). Excluding *universal*, *social sustainability* also has considerably more tables than the other series (23.51 % of total report) and is leading in the number of words (13.67 %). On the other hand, *economic sustainability* is the most reported series when it comes to figures (8.89 %) and diagrams (12.68 %), that is, twice as many tables (8 / 4 = 2) and 1.5 times more diagrams (27 / 18 = 1.5) as *social sustainability*. *Environmental sustainability* accounts for more pages (9.30 %), words (9.96 %) and tables (14.94 %), while having less figures (2.22 %) and diagrams (7.98 %), than *economic sustainability* (corresponding percentages are 9.57 % pages; 9.16 % words; 9.61 % tables; 8.89 % figures and 12.68 % diagrams). The least reported series is *sector disclosures* (pages 7.16 %; words 6.45 %; tables 8.44 %; figures 1.11 %; diagrams 2.82 %).

While generally for all series, tables are more used than diagrams and diagrams more used than figures (see part 4.1.1), turning the criteria around, some series tend to be reported in particular formats.

Table 3: Total sample: Distribution of sustainability information

	Pages	% of total data	Words	% of total data	Tables	% of total data	Figures	% of total data	Diagrams	% of total data
Total data										
Total	1,494	100.00%	271,578	100.00%	770	100.00%	90	100.00%	213	100.00%
Total sustainability										
Total	857	57.36%	158,033	58.19%	557	72.34%	51	56.67%	120	56.34%
Universal										
Total	607	40.63%	109,418	40.29%	188	24.42%	39	43.33%	58	27.23%
Economic sustainability										
Total	143	9.57%	24,879	9.16%	74	9.61%	8	8.89%	27	12.68%
Environmental sustainability										
Total	139	9.30%	27,046	9.96%	115	14.94%	2	2.22%	17	7.98%
Social sustainability										
Total	327	21.89%	37,130	13.67%	181	23.51%	4	4.44%	18	8.45%
Sector disclosures										
Total	107	7.16%	17,511	6.45%	65	8.44%	1	1.11%	6	2.82%

4.1.2 Analysis

There are two key findings that may be seen in the result for the total sample. The first finding regards the most reported series, whereas the findings show a dominance of references to *universal* sustainability. *Universal* refers to the 100 series, which consists of three standards, as explained in part 2.2.1. The two standards with disclosures are *General disclosures* (GRI 102) and *Management approach* (GRI 103). *General disclosures* (GRI 102) is a standard which consists of disclosures about the reporting corporations such as its profile and strategy (Global Reporting Initiative, 2016). This standard is useful for the reporting corporations to give information about reporting and business contexts rather than certain sustainability topics. The use of *General disclosures* (GRI 102) raises the question whether corporations think it is more important to profile themselves to their readers and explain their corporation and businesses rather than discussing how the corporation and its businesses impact sustainability (Campbell, 2003; Ehnert *et al.*, 2016).

The second standard with disclosures is *Management approach* (GRI 103), and this standard is supposed to be used alongside the topic specific standards. For example, if a corporation reports on its energy impacts by using the standard *Energy* (GRI 302), it is supposed to use *Management approach* (GRI 103) together with the previous mentioned standard on energy impacts (GRI 302)

(Global Reporting Initiative, 2016). This way to use *Management approach* (GRI 103) alongside the other topic specific standards explain why this standard may be used to a wide extent in this sample's reports.

The above discussion shows and perhaps explains the dominant use of the *universal* series. The least used series is *sector disclosures* and the second least used series is *environmental sustainability*. When it comes to *economic* and *social sustainability,* it is slightly confusing. *Social sustainability* has more pages, words and tables than *economic sustainability*, which in turn has more figures and diagrams than *social sustainability*. Due to the clear use of tables in comparison to figures and diagrams, it may be assumed that the most used series after *Universal* is *social sustainability*. It is hereby argued that the sustainability reporting based on the use of GRI series is in ascending order: *universal* (GRI 100), *social sustainability* (GRI 400), *economic sustainability* (GRI 200), *environmental sustainability* (GRI 300) and least, *sector disclosures* (the guidelines *Food Processing*, *Financial Services* and *Electric Utilities*, as described above). The finding that *social sustainability* is more reported than *environmental sustainability* is particular interesting with regards to the industries in the sample. Two of three industries (i.e. CNC and utilities), that is, 2/3 of the sample, may be regarded as environmental sensitive industries and should according to research be more likely to report more on *environmental sustainability* than the third industry (financial) (Campbell, 2003; Araya, 2006; Fifka, 2013; Alonzo-Almeida *et al.*, 2015), see part 2.4.2. This finding will be further analyzed in part 4.3.

When discussing the most reported series, it is important to remember that the different series have different numbers of standards. *Universal* (or the GRI 100 series) has 2 standards with sustainability disclosures; *economic sustainability* (or the GRI 200 series) has 6 standards; *environmental sustainability* (or the GRI 300 series) has 8 standards; *social sustainability* (or the GRI 400 series) has 19 standards and *sector disclosures* consists of one standard for each sector (see the appendix). It may therefore be assumed that the relatively more reported information on *social sustainability* might be attributed to the relatively higher number of standards that are included in the GRI 400 series. However, there are contrasting results that indicates that the extent of reporting on each series is not determined on the number of standards that comes with each series. For example, *economic sustainability* comes with 6 standards and is reported more than *environmental sustainability* which comes with 8 standards.

The second finding is that there is a considerable use of tables (770 tables) in comparison to figures (90) and diagrams (213). This result is visible for the total data, total sustainability data and for each series as well. With the basis in the discussion in 3.2.2.2, it may be assumed that KPIs are preferably reported in tables, then diagrams and lastly figures.

Grant (2018) states that tables, in line with words, are boring and do not receive much attention, while diagrams are more visually appealing for the human eye. Therefore, readers prefer diagrams rather than tables. So why do corporations use more tables instead of visually appealing figures and diagrams?

The visual differences between tables, figures and diagrams may be a reason why tables are more used than the other two data formats. A table is rather boring to look at, without that much of elements such as color, text with a large font size, or lines that show relations. Even diagrams may be more visually appealing compared to tables, as circle diagrams or bar charts often have more colors than tables. It is therefore reasonable to assume that visually appealing ways to report data, such as by figures and diagrams, attract the eyes of the readers more compared to a plain text, (or in tables case, a list of text). Corporations may therefore use figures and diagrams to report highlights and KPIs that puts the corporations in a good light, while tables are used for not-so-good information (Hummel & Schlick, 2016; Grant, 2018). However, a closer investigation of the actual contents in tables, figures and diagrams is needed in order to ascertain whether visually appealing data formats such as diagrams and figures are used to report information which puts the reporting corporations in a good light.

A more simple reason to why tables may be used more than other data formats is that it is easier to conduct a table instead of a figure or diagram. Tables also require less space than figures and diagrams, but at the same time contain a lot of more KPIs or other information. Due to the variety and amount of sustainability information that needs to be disclosed (Global Reporting Initiative, 2018), the easiest and less spacious way to disclose this information may be to use tables. And sometimes it may be necessary to use tables instead of figures or diagrams, for example when there is a huge bunch of numbers that needs to be reported. Imagine a balance sheet represented in a figure or diagram. Although it might be possible to report this information in a figure or a diagram, it would probably take a lot more space and be way more difficult to compare and evaluate all those numbers.

4.2 Size

Table 4 shows all corporations sustainability data, disaggregated and sorted by size. As shown, the 12 corporations ranged from 59 to 105,408 employees during 2017 according to their reports. There are some corporations that are similar in number of employees. For example, two corporations have below 1,000 employees (59 and 897 respectively), two corporations have between 6,000 and 7,000 employees (6,311 and 6,813 employees respectively), while three corporations have a significantly large number of employees (98,808; 101,247 and 105,408 employees respectively). Although the sample shows a wide range of employees, 7 corporations have below 10,000 employees, 2 corporations have between 10,000 and 50,000 employees and 3 corporations have around 100,000 employees.

4.2.1 Results

Only three reports consist of less than 100 pages. These reports also belong to the three smallest corporations (59; 897 and 1,399 employees). Although the smallest corporation has the shortest report when it comes to pages (59 employees and 56 pages), the longest report was issued by the third largest corporation (98,808 employees and 202 pages). The report by the second largest corporation (101,247 employees) is shorter than the fifth largest corporation's (16,679 employees) report (154 and 156 pages respectively). However, more pages in the reports do not necessarily mean that the reports have more words. For example, the report by the third smallest corporation (1,399 employees) had 70 pages and 19,456 words, whilst the report by the fourth largest corporation (32,846 employees) had 116 pages and 14,000 words. The two largest corporations have approximately the same amount of words (approximately 38,000 words) in their reports, although one of the reports has 18 more pages than the other.

Tables range between 10 tables to 150 tables. 6 reports have below 50 tables and these reports belong to the three smallest corporations (59; 897 and 1,399 employees) and the corporations with 6,813; 8,245 and 32,846 employees. The four reports that have over 100 tables belong to the fourth and fifth smallest corporations (4,064 and 6,311 employees) as well as two of the three largest corporations (98,808 and 101, 247 employees). Figures are all below 10 in numbers

except two reports, issued by the corporation with 8,245 employees (20 figures) and the corporation with 101,247 employees (13 figures). Lastly, 9 out of 12 corporations have more than 10 diagrams in their reports. The three corporations with below 10 diagrams in their reports have 897; 6,813 and 32,846 employees.

Regarding sustainability information, all of the corporations discuss sustainability with more than 50 % of their total words except one corporation. This corporation has 4,064 employees and discusses sustainability with 43.83 % of their total words. Additionally, all of the corporations that dedicate more than 60 % of their total words to sustainability have below 10,000 employees. There is one exception, as the corporation with 32,846 employees discusses sustainability with 79.96 % of their total words. Although the three largest corporations indeed discusses sustainability with most words (approximately 20,000 words each), their portion of total words that discusses sustainability is much lower than several smaller corporations' portion of total words.

It may be said that the largest corporation use the most words to report on *economic*, *environmental* and *social sustainability*, while the smallest corporation use the least words to report on *environmental sustainability* and *sector disclosures,* although the latter is shared with two other corporations. There are some other examples, such as the three largest corporations actually used more words and tables when they report on *social sustainability* in comparison to the other corporations. However, the percentages of total words show that the smallest corporation dedicates more relative space (22.05 %) to report on *social sustainability* than two of the three largest corporations (the corporation with 98,808 employees had 12.91 % and the corporation with 101,247 employees had 15.78 % words with *social sustainability* information).

In between, it is not clear whether larger corporations report more on sustainability than smaller corporations. There are many examples of this case. For example, the second largest corporation (101,247 employees) reported *environmental sustainability* with 1,550 words, while five smaller corporations used more words to report on *environmental sustainability* than this corporation. Furthermore, the fifth largest corporation (16,679 employees) report the least on *economic sustainability*, while the third smallest corporation (1,399 employees) report the most on *sector disclosures*.

Table 4: By size: Distribution of sustainability information

Employees	Pages	% of total data	Words	% of total data	Tables	% of total data	Figures	% of total data	Diagrams	% of total data
Total data										
59	56	100.00%	6,345	100.00%	10	100.00%	2	100.00%	18	100.00%
897	75	100.00%	6,876	100.00%	12	100.00%	6	100.00%	9	100.00%
1,399	70	100.00%	19,456	100.00%	23	100.00%	7	100.00%	14	100.00%
4,064	145	100.00%	20,737	100.00%	150	100.00%	9	100.00%	11	100.00%
6,311	121	100.00%	23,922	100.00%	116	100.00%	4	100.00%	12	100.00%
6,813	103	100.00%	13,569	100.00%	25	100.00%	9	100.00%	3	100.00%
8,245	124	100.00%	23,180	100.00%	41	100.00%	20	100.00%	10	100.00%
16,679	156	100.00%	26,242	100.00%	81	100.00%	7	100.00%	36	100.00%
32,846	116	100.00%	14,000	100.00%	24	100.00%	5	100.00%	9	100.00%
98,808	202	100.00%	40,284	100.00%	101	100.00%	5	100.00%	23	100.00%
101,247	154	100.00%	38,305	100.00%	112	100.00%	13	100.00%	35	100.00%
105,408	172	100.00%	38,662	100.00%	75	100.00%	3	100.00%	33	100.00%
Total sustainability										
59	31	55.36%	4294	67.68%	5	50.00%	2	100.00%	12	66.67%
897	33	44.00%	3,703	53.85%	9	75.00%	3	50.00%	6	66.67%
1,399	51	72.86%	12,642	64.98%	19	82.61%	7	100.00%	7	50.00%
4,064	67	46.21%	9,089	43.83%	52	34.67%	6	66.67%	2	18.18%
6,311	86	71.07%	14,752	61.67%	95	81.90%	1	25.00%	11	91.67%
6,813	41	39.81%	8,499	62.64%	23	92.00%	8	88.89%	3	100.00%
8,245	83	66.94%	15,522	66.96%	38	92.68%	6	30.00%	5	50.00%
16,679	81	51.92%	14,273	54.39%	52	64.20%	3	42.86%	21	58.33%
32,846	57	49.14%	11,194	79.96%	24	100.00%	4	80.00%	9	100.00%
98,808	110	54.46%	21,876	54.30%	64	63.37%	2	40.00%	0	0.00%
101,247	103	66.88%	19,167	50.04%	105	93.75%	7	53.85%	18	51.43%
105,408	114	66.28%	23,022	59.55%	71	94.67%	2	66.67%	26	78.79%
Universal										
59	23	41.07%	3,437	54.17%	3	30.00%	2	100.00%	1	5.56%
897	24	32.00%	2,829	41.14%	1	8.33%	3	50.00%	4	44.44%
1,399	38	54.29%	7,994	41.09%	7	30.43%	6	85.71%	5	35.71%
4,064	54	37.24%	4,499	21.70%	16	10.67%	5	55.56%	0	0.00%
6,311	68	56.20%	12,823	53.60%	37	31.90%	1	25.00%	8	66.67%
6,813	26	25.24%	4,606	33.95%	12	48.00%	2	22.22%	1	33.33%
8,245	58	46.77%	9,812	42.33%	16	39.02%	3	15.00%	1	10.00%
16,679	65	41.67%	12,429	47.36%	25	30.86%	3	42.86%	18	50.00%
32,846	29	25.00%	5,672	40.51%	4	16.67%	4	80.00%	0	0.00%
98,808	88	43.56%	18,984	47.13%	19	18.81%	2	40.00%	0	0.00%
101,247	56	36.36%	9,580	25.01%	37	33.04%	6	46.15%	12	34.29%
105,408	78	45.35%	16,753	43.33%	11	14.67%	2	66.67%	8	24.24%

Employees	Pages	% of total data	Words	% of total data	Tables	% of total data	Figures	% of total data	Diagrams	% of total data
Economic sustainability										
59	5	8.93%	926	14.59%	0	0.00%	1	50.00%	3	16.67%
897	2	2.67%	138	2.01%	0	0.00%	0	0.00%	0	0.00%
1,399	3	4.29%	305	1.57%	0	0.00%	1	14.29%	0	0.00%
4,064	16	11.03%	2,246	10.83%	7	4.67%	1	11.11%	0	0.00%
6,311	14	11.57%	2,008	8.39%	20	17.24%	0	0.00%	2	16.67%
6,813	8	7.77%	2,006	14.78%	1	4.00%	5	55.56%	2	66.67%
8,245	10	8.06%	839	3.62%	2	4.88%	0	0.00%	3	30.00%
16,679	2	1.28%	14	0.05%	1	1.23%	0	0.00%	1	2.78%
32,846	11	9.48%	2,548	18.20%	6	25.00%	0	0.00%	6	66.67%
98,808	15	7.43%	2,883	7.16%	12	11.88%	0	0.00%	0	0.00%
101,247	12	7.79%	2,129	5.56%	4	3.57%	0	0.00%	4	11.43%
105,408	45	26.16%	8,837	22.86%	21	28.00%	0	0.00%	6	18.18%
Environmental sustainability										
59	4	7.14%	345	5.44%	1	10.00%	0	0.00%	2	11.11%
897	7	9.33%	746	10.85%	6	50.00%	0	0.00%	1	11.11%
1,399	4	5.71%	1,273	6.54%	4	17.39%	0	0.00%	1	7.14%
4,064	12	8.28%	1,264	6.10%	8	5.33%	0	0.00%	0	0.00%
6,311	20	16.53%	2,290	9.57%	34	29.31%	0	0.00%	1	8.33%
6,813	10	9.71%	2,386	17.58%	12	48.00%	1	11.11%	0	0.00%
8,245	12	9.68%	3,695	15.94%	8	19.51%	0	0.00%	0	0.00%
16,679	9	5.77%	1,039	3.96%	5	6.17%	0	0.00%	3	8.33%
32,846	18	15.52%	3,545	25.32%	8	33.33%	0	0.00%	3	33.33%
98,808	10	4.95%	2,563	6.36%	6	5.94%	0	0.00%	0	0.00%
101,247	6	3.90%	1,550	4.05%	10	8.93%	1	7.69%	2	5.71%
105,408	27	15.70%	6,350	16.42%	13	17.33%	0	0.00%	4	12.12%
Social sustainability										
59	9	16.07%	1,399	22.05%	1	10.00%	0	0.00%	6	33.33%
897	6	8.00%	744	10.82%	3	25.00%	0	0.00%	1	11.11%
1,399	13	18.57%	2,104	10.81%	9	39.13%	0	0.00%	4	28.57%
4,064	20	13.79%	2,406	11.60%	13	8.67%	1	11.11%	0	0.00%
6,311	27	22.31%	2,614	10.93%	24	20.69%	0	0.00%	0	0.00%
6,813	4	3.88%	1,260	9.29%	1	4.00%	0	0.00%	0	0.00%
8,245	19	15.32%	2,762	11.92%	11	26.83%	3	15.00%	0	0.00%
16,679	17	10.90%	1,002	3.82%	21	25.93%	0	0.00%	0	0.00%
32,846	5	4.31%	1,413	10.09%	1	4.17%	0	0.00%	0	0.00%
98,808	145	71.78%	5,199	12.91%	36	35.64%	0	0.00%	0	0.00%
101,247	25	16.23%	6,045	15.78%	36	32.14%	0	0.00%	0	0.00%
105,408	37	21.51%	10,182	26.34%	25	33.33%	0	0.00%	7	21.21%

Employees	Pages	% of total data	Words	% of total data	Tables	% of total data	Figures	% of total data	Diagrams	% of total data
Sector disclosures										
59	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
897	2	2.67%	537	7.81%	0	0.00%	0	0.00%	0	0.00%
1,399	15	21.43%	3,648	18.75%	3	13.04%	0	0.00%	1	7.14%
4,064	17	11.72%	2,495	12.03%	11	7.33%	0	0.00%	2	18.18%
6,311	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
6,813	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
8,245	21	16.94%	3,643	15.72%	12	29.27%	0	0.00%	2	20.00%
16,679	1	0.64%	53	0.20%	0	0.00%	0	0.00%	0	0.00%
32,846	12	10.34%	2,118	15.13%	5	20.83%	1	20.00%	0	0.00%
98,808	19	9.41%	2,721	6.75%	11	10.89%	0	0.00%	0	0.00%
101,247	13	8.44%	946	2.47%	18	16.07%	0	0.00%	0	0.00%
105,408	7	4.07%	1,350	3.49%	5	6.67%	0	0.00%	1	3.03%

4.2.2 Analysis

The results above show that the larger the corporation, the more sustainability reporting is not always the case. Although the largest corporations report significantly more than the smallest corporations in absolute terms, some smaller corporations report surprisingly high amounts of sustainability information. Hence, there appears to be an inconclusive positive relationship between size and sustainability reporting but this trend is by no means linear as there are considerable variations throughout the sample. For example, five smaller corporations exceed one of the largest corporations (101,247 employees) when it comes to number of words about *environmental sustainability.*

Larger corporations tend to have longer reports with regards to all pages, words, tables and diagrams and this might reflect that these larger corporations have more activities to report on due to their size. The longer reports may also be attributed to real or imagined stakeholder pressures due to larger businesses (Fifka, 2013; Hahn & Kühnen, 2013; Alonzo-Almeida *et al.*, 2015; Hummel & Schlick, 2016). Similarly, the two smallest corporations with less than a thousand employees prepared very short reports compared to the rest of the sample. The overall situation slightly differ when one considers the relative incidence of sustainability content, where the smaller companies tend to dedicate an equal or larger share of their reports to sustainability.

One may imagine that small corporations would have comparative lack of resources dedicated to sustainability reporting, but doing so may also be a less daunting task if the corporations' activities are less far-reaching (Fifka, 2013; Hahn & Kühnen, 2013; Alonzo-Almeida *et al.*, 2015; Hummel & Schlick, 2016). It may therefore be the case that other factors (e.g. the extent or nature of corporations' activities) is a better indication of the extent of sustainability reporting than number of employees is taken in isolation. Even so, it is evident that a significant share of the relatively small corporations report on sustainability. One should keep in mind that whereas the three largest corporations have around 100,000 employees, several of the smaller corporations still employ thousands of people.

One possible interpretation is that around or slightly above 50 % of the reports' total words tend to contain sustainability information regardless of size, while the extent of sustainability information in the other data formats is inconclusive. That said, the oftentimes longer reports of the very largest corporations may well contain sustainability content that is not part of a GRI disclosure and therefore invisible to the method used in this thesis. But as it stands, the positive relationship between size and sustainability reporting that a significant portion of previous research has indicated (Belal & Momin, 2009; Fifka, 2012; 2013) is difficult to support conclusively with the findings of this study. These findings rather indicate that large corporations tend to produce long reports and that small corporations produce short reports. Whether this somewhat unsatisfactory conclusion is a property of the Brazilian case or a methodological shortcoming such as the small sample size is difficult to decide.

4.3 Industry

There are three industries in this sample, corresponding to four corporations in each industry. The consumer non cyclical (CNC) industry consists of three food processing corporations and one manufacturing corporation; the financial industry consists of banks; and the utilities industry consists of energy producing corporations. Their corresponding sector disclosures are *Food Processing* (the CNC industry), *Financial Services* (the financial industry) and *Energy Utilities* (the utilities industry).

4.3.1 Results

Table 5 shows the aggregated sustainability data per industry. Both the CNC and the financial industries have rather long reports, which account of 100,000 words per industry or approximately 25,000 words per report as there are four reports in each industry. This is rather different from the utilities industry, which accounts for approximately 70,000 words in total or 17,500 words per report.

The CNC industry leads the reporting practices in several cases. For example, the CNC industry accounts for more pages, words, tables and diagrams, but less figures than the other two industries. Accordingly, the CNC industry also has more pages, words, tables and diagrams, but fewer figures with sustainability information than the financial and the utilities industries. The table further shows that the CNC industry dedicate a larger portion of its total data to sustainability information than the other two industries in these cases. When it comes to words, the CNC industry dedicates more relative space to the *universal, economic, environmental* and *social sustainability* series than any of the other industries, while both the financial and the utilities industries give more relative space to *sector disclosures* than the CNC industry.

Regarding the series and words, both the CNC and the financial industries report the most on *universal*; followed by *social sustainability; economic sustainability; environmental sustainability* and lastly *sector disclosures*. The utilities industry reports the most on *universal*, followed by *sector disclosures, social sustainability, environmental sustainability* and lastly *economic sustainability*.

The CNC and the financial industries dedicate approximately the same amount of words to *social sustainability* and *sector disclosures*. The CNC industry uses around 15,200 words (or 14.8 % of the total data) while the financial industry uses around 13,900 words (or 14.1 % of total data) to report on *social sustainability*. The corresponding numbers for the utilities industry is 8,000 words or 11.4 %. Approximately 3,500 words or 3.5 % of the total data in the CNC and financial industries goes to *sector disclosures*, while the corresponding for the utilities industry is 10,300 words or 14.7 % of total data. The utilities industry therefore report on *sector disclosures* to almost the same amount as the CNC and financial industries report on *social sustainability*, which is more than twice the amount of words that the CNC and financial industries use to report on *sector disclosures*.

While the financial and utilities industries report on *environmental sustainability* with approximately 7,000 words each, the CNC industry uses approximately 13,200 words to report on *environmental sustainability*. When looking at the relative aspect, the CNC industry dedicates 12.86 % of its total words, while the utilities industry dedicate 9.93 % and the financial industry dedicate 6.95 % of respective industry's total words, to environmental sustainability. Although these percentages are similar to each other, it is clear that the CNC and utilities industries report more on environmental sustainability than the financial industry.

Table 5: By industry: Distribution of sustainability information

Industry	Pages	% of total data	Words	% of total data	Tables	% of total data	Figures	% of total data	Diagrams	% of total data
Total data										
CNC	565	100.00%	102,826	100.00%	296	100.00%	19	100.00%	90	100.00%
Financial	515	100.00%	98,503	100.00%	248	100.00%	29	100.00%	79	100.00%
Utilities	414	100.00%	70,249	100.00%	226	100.00%	42	100.00%	44	100.00%
Total sustainability										
CNC	338	59.82%	63,241	61.50%	242	81.76%	10	52.63%	67	74.44%
Financial	285	55.34%	53,836	54.65%	197	79.44%	19	65.52%	33	41.77%
Utilities	234	56.52%	40,956	58.30%	118	52.21%	22	52.38%	20	45.45%
Universal										
CNC	240	42.48%	47,677	46.37%	77	26.01%	10	52.63%	34	37.78%
Financial	193	37.48%	36,607	37.16%	71	28.63%	12	41.38%	14	17.72%
Utilities	174	42.03%	25,134	35.78%	40	17.70%	17	40.48%	10	22.73%
Economic sustainability										
CNC	72	12.74%	13,407	13.04%	48	16.22%	0	0.00%	15	16.67%
Financial	40	7.77%	7,944	8.06%	17	6.85%	6	20.69%	9	11.39%
Utilities	31	7.49%	3,528	5.02%	9	3.98%	2	4.76%	3	6.82%
Environmental sustainability										
CNC	74	13.10%	13,224	12.86%	60	20.27%	0	0.00%	11	12.22%
Financial	30	5.83%	6,844	6.95%	29	11.69%	2	6.90%	4	5.06%
Utilities	35	8.45%	6,978	9.93%	26	11.50%	0	0.00%	2	4.55%
Social sustainability										
CNC	86	15.22%	15,211	14.79%	71	23.99%	0	0.00%	7	7.78%
Financial	183	35.53%	13,903	14.11%	74	29.84%	0	0.00%	6	7.59%
Utilities	58	14.01%	8,016	11.41%	36	15.93%	4	9.52%	5	11.36%
Sector disclosures										
CNC	20	3.54%	3,521	3.42%	10	3.38%	1	5.26%	1	1.11%
Financial	32	6.21%	3,667	3.72%	29	11.69%	0	0.00%	0	0.00%
Utilities	55	13.29%	10,323	14.69%	26	11.50%	0	0.00%	5	11.36%

4.3.2 Analysis

The main highlight from the above result is that the CNC and the financial industries appear to be rather similar to each other while the utilities industry seems to be different from both of the previous mentioned industries. For example, the CNC and the financial industries have approximately the same amount of words in their reports and also report on *social sustainability* and *sector disclosures* with approximately the same amount of words. The utilities industry on the other hand reports the most on *sector disclosures*. Although there are differences between reporting practices by the CNC and the financial industries (e.g. the portion of words that belong to any series and that the CNC industry report more on both *economic* and *environmental sustainability* compared to the financial industry), the similarities are surprising.

The similarities between CNC and financial industries might be attributed to the use of the GRI standards, which aims to create a common sustainability reporting language (Hahn & Kühnen, 2013; Ehnert *et al.*, 2016; Global Reporting Initiative, 2016). One may then ask why the utilities industry seems to differ from the other two industries. Using the GRI standards requires the corporations to review sustainability topics from a materiality aspect. In other words, corporations are only supposed to report on sustainability topics which fulfill certain significance requirements (Global Reporting Initiative, 2016). Perhaps the utilities industry is so characteristically different from the other two industries that other sustainability topics have to be discussed by utilities corporations. The significant use of the utilities industry's *sector disclosures* (i.e. *Energy Utilities*) argues for this to be the case. Instead of reporting more on other series, the utilities industry report the most on its *sector disclosures*, which differ from the other two industries' *sector disclosures* (i.e. *Food Processing* and *Financial Services*).

Another widely discussed reason for differences in reporting contents between industries is different stakeholder pressures. The typical example regards *environmental sustainability*, where potential environmentally harmful industries are pressured to report more on environmental impacts and sustainability Araya, 2006; Hahn & Kühnen, 2013), see part 2.4.1. The above reviewed results show that the CNC and the utilities industries indeed report more on *environmental sustainability* compared to the financial industry although these differences might not be as big as expected. Furthermore, both the CNC and financial industries report more on *universal, economic* and *social sustainability* than *environmental sustainability*, while the utilities

industry report more on *universal, social sustainability* and *sector disclosures* compared to *environmental sustainability*. This finding indicates that even though the CNC and utilities industries reports more on *environmental sustainability* compared to the financial industry, other series are of more importance.

The CNC industry consists of food processing and a manufacturing corporation, while the utilities industry consists of energy producers. These industries may be seen as environmentally sensitive, or damaging, industries compared to the financial industry. Despite that the financial industry provides services while the utilities industry produces energy, the financial industry report almost as much *environmental sustainability* as the utilities industry. Due to the characteristics of these two industries, i.e. two thirds of the sample, questions about why these industries do not report more on environmental sustainability arise.

One reason could be the above discussed materiality aspect, i.e. that certain environmental topics are not significant for certain corporations and therefore not reported (Global Reporting Initiative, 2016). Another reason could be that the reporting corporations indeed conclude that the topics are significant on the basis of the materiality aspect (Global Reporting Initiative, 2016), but that the topic is not the most important topic to report on (Campbell, 2003; Ehnert *et al.*, 2016) or that no GRI standard corresponds to the topic in question. The essential assumption here is that corporations report due to stakeholder pressures (Welford, 2004; Gill *et al.*, 2008; Hahn & Kühnen, 2013; Alonso-Almeida *et al.*, 2015; Dissanayake *et al.*, 2016) and to create or maintain positive reputations (Campbell, 2003; Araya, 2006; Fifka, 2013; Alonzo-Almeida *et al.*, 2015). If the reporting corporations' environmental performances are poor or in other ways may risk the corporations' reputations, corporations may be more likely to report on other topics that maintain or improve their reputations (e.g. Hummel & Schlick, 2016). A final remark regarding this question is that perhaps these corporations do report a lot of *environmental sustainability* information. Since there is no benchmark of sufficient amount of information, it is possible that their reporting practices are sufficient or even exceed researchers' or stakeholders' expectations. However, in comparison to the other series, *environmental sustainability* reporting does indeed look poor.

4.3.2 Standards

Based on the argument that different industries report different sustainability information (e.g. Campbell, 2003; Fifka, 2013; Jain & Winner, 2016) and in order to go more in-depth regarding the industry analysis, it was decided to review each industry on the basis of GRI standards. Table 6 shows the full list of 35 standards and sector disclosures ranked by most reported standards by words for each industry. Top ten standards excluding *universal* standards (i.e. the 100 series) and bottom ten standards are marked, as well as those standards with a total of 1-500 words. The *universal* standards (i.e. the 100 series) were excluded from top ten due to its universality as discussed in part 4.1.1. The choice to rank the standards by words was based on the finding that words appears to be the most used data format by far.

4.3.2.1 Results

The utilities industry reports on fewer standards than any of the other industries (33 standards, in comparison to the CNC industry's 36 standards and the financial industry's 37 standards). With regards to standards that have been reported using between 1-500 words, the CNC industry reported on 9 standards with a maximum of 500 words in total. Corresponding numbers for the financial and utilities industries are 11 and 14 standards respectively.

The most reported topic specific standards regards *economic sustainability* for the CNC (GRI 201, *Economic Performance*) and the financial (GRI 203, *Indirect Economic Impacts*) industries, while the utilities industry report the most on its *sector disclosure* (*Energy Utilities*). All three industries report on all environmental standards (GRI 300 series). CNC also reports on all economic standards (GRI 200 series), while the financial and utilities industries do not report on the 206 (*Anti-competitive Behavior*) standard. Regarding social sustainability (GRI 400 series), the financial industry report on all 19 social standards except GRI 411 (*Rights of Indigenous Peoples)*, while the CNC industry reports on all social standards except GRI 418 (*Customer Privacy*) and GRI 419 (*Socioeconomic Compliance*). Finally, the utilities industry does not report on GRI 402 (*Labor/Management Relations*), GRI 410 (*Security Practices*), GRI 415 (*Public Policy*), GRI 417 (*Marketing and Labeling*) and GRI 418 (*Customer Privacy*).

Regarding most and least reported standards by industry, all three industries have standards regarding *economic sustainability*, *environmental sustainability*, *social sustainability* and *sector disclosures* among their ten most reported standards. Similarly, the CNC and financial industries have *economic*, *environmental* and *social* sustainability standards among their least reported standards, while the utilities industry have *economic* and *social* sustainability standards among their least reported standards. It is further interesting to note that all three industries have at least one standard from each of the three series represented by topic specific standards, i.e. economic, environmental and social sustainability among their standards represented by 1-500 words.

Table 6: By industry: Most popular standard based on words

Rank	CNC Standard	Words	% of total data	Financial Standard	Words	% of total data	Utilities Standard	Words	% of total data	
#1	GRI 103	28,931	28.14%	GRI 102	23,279	23.63%	GRI 102	16,903	24.06%	
#2	GRI 102	24,427	23.76%	GRI 103	14,562	14.78%	GRI 103	8,745	12.45%	
#3	GRI 201	6,936	6.75%	GRI 203	3,793	3.85%	Sector*	10,323	14.69%	Top ten
#4	GRI 414	4,164	4.05%	Sector*	3,667	3.72%	GRI 304	2,891	4.12%	
#5	GRI 308	3,952	3.84%	GRI 412	3,189	3.24%	GRI 404	1,881	2.68%	
#6	GRI 408	3,939	3.83%	GRI 414	2,452	2.49%	GRI 203	1,628	2.32%	
#7	GRI 409	3,939	3.83%	GRI 409	2,355	2.39%	GRI 413	1,567	2.23%	
#8	GRI 413	3,927	3.82%	GRI 201	2,353	2.39%	GRI 414	1,458	2.08%	
#9	Sector*	3,521	3.42%	GRI 308	1,986	2.02%	GRI 305	1,146	1.63%	
#10	GRI 305	3,261	3.17%	GRI 407	1,889	1.92%	GRI 308	1,006	1.43%	
#11	GRI 203	2,512	2.44%	GRI 303	1,718	1.74%	GRI 205	966	1.38%	
#12	GRI 417	2,326	2.26%	GRI 404	1,647	1.67%	GRI 201	807	1.15%	
#13	GRI 306	2,078	2.02%	GRI 306	1,621	1.65%	GRI 403	753	1.07%	
#14	GRI 204	2,029	1.97%	GRI 403	1,517	1.54%	GRI 405	742	1.06%	
#15	GRI 416	1,992	1.94%	GRI 413	1,348	1.37%	GRI 306	706	1.00%	
#16	GRI 205	1,760	1.71%	GRI 408	1,341	1.36%	GRI 302	671	0.96%	
#17	GRI 304	1,713	1.67%	GRI 302	1,205	1.22%	GRI 412	467	0.66%	
#18	GRI 403	1,611	1.57%	GRI 205	946	0.96%	GRI 401	392	0.56%	
#19	GRI 302	1,413	1.37%	GRI 401	881	0.89%	GRI 303	367	0.52%	
#20	GRI 303	1,387	1.35%	GRI 417	844	0.86%	GRI 406	300	0.43%	
#21	GRI 405	787	0.77%	GRI 405	753	0.76%	GRI 419	263	0.37%	
#22	GRI 301	779	0.76%	GRI 305	591	0.60%	GRI 307	199	0.28%	
#23	GRI 404	651	0.63%	GRI 416	516	0.52%	GRI 301	153	0.22%	
#24	GRI 401	538	0.52%	GRI 202	448	0.45%	GRI 202	114	0.16%	
#25	GRI 202	145	0.14%	GRI 406	445	0.45%	GRI 416	113	0.16%	
#26	GRI 406	52	0.05%	GRI 301	412	0.42%	GRI 407	74	0.11%	
#27	GRI 410	49	0.05%	GRI 204	404	0.41%	GRI 411	60	0.09%	Bottom ten
#28	GRI 307	39	0.04%	GRI 304	257	0.26%	GRI 204	13	0.02%	
#29	GRI 415	33	0.03%	GRI 418	192	0.19%	GRI 408	7	0.01%	
#30	GRI 402	28	0.03%	GRI 419	177	0.18%	GRI 409	7	0.01%	
#31	GRI 206	25	0.02%	GRI 307	148	0.15%	GRI 206	0	0.00%	
#32	GRI 407	20	0.02%	GRI 402	92	0.09%	GRI 402	0	0.00%	
#33	GRI 411	16	0.02%	GRI 415	58	0.06%	GRI 410	0	0.00%	
#34	GRI 412	0	0.00%	GRI 410	37	0.04%	GRI 415	0	0.00%	
#35	GRI 418	0	0.00%	GRI 206	0	0.00%	GRI 417	0	0.00%	
#36	GRI 419	0	0.00%	GRI 411	0	0.00%	GRI 418	0	0.00%	

The sector disclosures consists of Food Processing (FP) for the CNC industry; Financial Services (FS) for the financial industry and Energy Utilities (EU) for the utilities industry.

4.3.2.2 Analysis

The first finding regards the utilities industry's coverage of sustainability aspects. As shown in the results above, the utilities industry reports on fewer standards than any other industry (33 standards). When it comes to the standards that have between 1-500 words, the utilities industry have the more standards in this group than any of the other industries (14 standards). With regards to the group size of four corporations in the utilities industry, it is possible that these 14 standards are not reported by all of the corporations in the industry. In sum, this finding indicates that the utilities industry covers fewer standards compared to the other two industries. Most importantly, this finding further enhances the conclusion that the utilities industry indeed is a special case. Due to certain industry characteristics, the utilities industry perhaps is more specific industry that is straight on point – in the sense that business practices by utilities corporations do not affect a wide range of different sustainability topics compared to the other two industries. However, it is necessary to investigate the industry's characteristics further in order to ascertain such conclusions.

The second finding regards *environmental sustainability*, as all of the environmental standards (the 300 series) were reported by all of the industries. Although some of the environmental standards lie in each industry's group of standards reported with between 1-500 words, some of these standards also lie in each industry's top ten standards. With regards to the standards reported between 1-500 words, one may assume that not all corporations report on all environmental standards, although all three industries do. With regards to the environmental standards in each industry's top ten, this finding indicate some importance to at least certain environmental topics. If the assumption is that more reported words indicates more importance (Campbell, 2003; Ehnert *et al.*, 2016), it is evident that the previous finding (i.e. that *economic* and *social sustainability* seem more important than *environmental sustainability*) is not really the case. These findings indicate that certain topics of *environmental sustainability* in fact are more important than certain topics of other series, such as *economic* and *social sustainability*.

4.4 Sustainability index participation

Each of the above discussed industries included two ISE corporations and two non-ISE corporations. ISE corporations are corporations that participated in ISE between 8 and 12 times since the index was launched in 2005. In other words, some ISE corporations have participated in

the index since its beginning, while other ISE corporations have participated during most of the years the index has been active. Most importantly, these corporations participated in ISE during 2017 which is the year the reports in this sample are issued for. In contrast to ISE corporations, non-ISE corporations have not participated in ISE during any of the years ISE has been active.

4.4.1 Results

Table 7 shows the same data as previous tables 3-5, but based on sustainability index participation. The table shows that ISE corporations have longer reports than non-ISE corporations when it comes to all data formats. ISE corporations also have more pages, words, tables and diagrams with sustainability information compared to non-ISE corporations, while non-ISE corporations actually have more figures with sustainability information than ISE corporations. Both ISE and non-ISE corporations had at least 50 % of respective group's pages, words, tables, figures and diagrams with sustainability information. The exception is ISE corporations' figures (44.44 % of total data), although both ISE corporations' diagrams (50.00 %) and non-ISE corporations' pages (51.04 %) with sustainability information are close to 50 %.

Although ISE corporations have more pages, words, tables and diagrams with sustainability information compared to non-ISE corporations; when looking at the relative numbers, non-ISE corporations dedicate more of their total data to sustainability in several cases. While non-ISE corporations dedicate 63.14 % of their total words, 75.43 % of total tables, 75.00 % of total figures and 65.17 % of total diagrams to sustainability, the corresponding numbers for ISE corporations are 55.88 % (words), 71.43 % (tables), 44.44 % (figures) and 50.00 % (diagrams). The exception is pages, where non-ISE corporations dedicate 51.04 % of their total pages to sustainability and the corresponding percentage for ISE corporations is 61.33 %.

Social sustainability is reported on the most pages while *sector disclosures* is reported on the least pages for both ISE and non-ISE corporations. However, ISE corporations have more pages to *economic sustainability* than *environmental sustainability* while it is the opposite for non-ISE corporations. When it comes to words, ISE corporations report the most on *social sustainability*, then *economic sustainability*, *environmental sustainability* and lastly, *sector disclosures*. Non-

ISE corporations, however, report most on *environmental sustainability*, followed by *social sustainability*, *sector disclosures* and lastly, *economic sustainability*.

Similar to the total sample, ISE corporations tend to use tables are more than diagrams, and more diagrams than figures. However, non-ISE corporations have some different cases. For example, regarding non-ISE corporations' reporting on *economic sustainability*, diagrams are more used than tables, which in turn are more used than figures. In *sector disclosures*, there are as many figures as diagrams.

Table 7: By sustainability index participation: Distribution of sustainability information

ISE	Pages	% of total data	Words	% of total data	Tables	% of total data	Figures	% of total data	Diagrams	% of total data
Total data										
ISE	918	100.00%	185,090	100.00%	595	100.00%	54	100.00%	124	100.00%
Non-ISE	576	100.00%	86,488	100.00%	175	100.00%	36	100.00%	89	100.00%
Total sustainability										
ISE	563	61.33%	103,428	55.88%	425	71.43%	24	44.44%	62	50.00%
Non-ISE	294	51.04%	54,605	63.14%	132	75.43%	27	75.00%	58	65.17%
Universal										
ISE	402	43.79%	72,451	39.14%	136	22.86%	19	35.19%	29	23.39%
Non-ISE	205	35.59%	36,967	42.74%	52	29.71%	20	55.56%	29	32.58%
Economic sustainability										
ISE	112	12.20%	18,942	10.23%	66	11.09%	1	1.85%	15	12.10%
Non-ISE	31	5.38%	5,937	6.86%	8	4.57%	7	19.44%	12	13.48%
Environmental sustainability										
ISE	87	9.48%	17,712	9.57%	79	13.28%	1	1.85%	7	5.65%
Non-ISE	52	9.03%	9,334	10.79%	36	20.57%	1	2.78%	10	11.24%
Social sustainability										
ISE	273	29.74%	29,208	15.78%	145	24.37%	4	7.41%	7	5.65%
Non-ISE	54	9.38%	7,922	9.16%	36	20.57%	0	0.00%	11	12.36%
Sector disclosures										
ISE	77	8.39%	11,155	6.03%	57	9.58%	0	0.00%	5	4.03%
Non-ISE	30	5.21%	6,356	7.35%	8	4.57%	1	2.78%	1	1.12%

4.4.2 Analysis

The general perception is that corporations that participate in a sustainability indices (in this case, ISE corporations), have better sustainability reporting practices compared to corporations that do not participate in indices (Araya, 2006; Orsato *et al.*, 2015). The findings above illustrates that

ISE corporations in most cases have more pages, words, tables, figures and diagrams than non-ISE corporations. Figures are the exception, where non-ISE corporations actually have more figures than ISE corporations in several cases. This finding is perhaps better illustrated by table 8 below. Table 8 shows the relative amount of sustainability information between ISE and non-ISE corporations. For example, ISE corporations' reports had 1.59 times more pages than non-ISE corporations.

Table 8: Relative amount of sustainability information between ISE and non-ISE corporations

	Pages	Words	Tables	Figures	Diagrams
Total data	1.59	2.14	3.40	1.50	1.39
Total sustainability data	1.91	1.89	3.22	0.89	1.07
Universal	1.96	1.96	2.62	0.95	1.00
Economic sustainability	3.61	3.19	8.25	0.14	1.25
Environmental sustainability	1.67	1.90	2.19	1.00	0.70
Social sustainability	5.06	3.69	4.03	*	0.64
Sector disclosures	2.57	1.76	7.13	**	5.00

Table 8 shows that the total data reported by ISE corporations ranges from 1.39 times (diagram) more information to 3.40 times (tables) more data compared to non-ISE corporations. ISE corporations also have almost twice as many pages (1.91 times) and words (1.89 times) with sustainability information compared to non-ISE corporations. Additionally, ISE corporations have 3.22 times more tables with sustainability information compared to non-ISE corporations, but fewer sustainability related figures (0.89), and almost the same amount of diagrams (1.07) as non-ISE corporations.

In the most extreme cases, ISE corporations report five to eight times more than non-ISE corporations. For example, ISE corporations have 8.25 times more tables with *economic sustainability* information and 5.06 times more pages with *social sustainability* information than non-ISE corporations.

While the considerable use of tables has been discussed previously in part 4.1.1, it is noteworthy that ISE corporations use tables to a wider degree than non-ISE corporations. As tables probably include KPIs and KPIs indicate reporting quality (Dissanayake *et al.*, 2016; Hummel & Schlick, 2016), it may be assumed that ISE corporations in fact have better reporting than non-ISE

corporations. Table 8 shows that the differences between ISE and non-ISE corporations' use of tables are larger than the differences between the groups' use of words in all cases (i.e. in total data; total sustainability data and each of the series). With regards to the research arguing that KPIs are high quality reporting and words are low quality reporting (Hummel & Schlick, 2016), and that tables probably include KPIs, this finding further enhances the argument that reporting practices by ISE corporations have higher quality – i.e. is better – than reporting practices by non-ISE corporations.

Although there are considerable differences between the actual numbers, the percentages tell another story. Table 7 shows that in several cases, non-ISE corporations dedicate a larger part of their total data to certain series and data formats. Although ISE corporations indeed have more pages, words, tables and diagrams with sustainability information compared to non-ISE corporations, the relative numbers show that ISE corporations do not dedicate a higher percentage of their reports to sustainability than non-ISE corporations do. The mixed results regarding the relative numbers further indicate that participation in ISE does not require that the majority of the participating corporation's report have to discuss sustainability. Accordingly, more sustainability reporting does not necessarily mean more sustainability information in relation to all information in the reports.

The key result in sustainability reporting based on sustainability index participation is that corporations which participate in sustainability indexes (that is, ISE corporations) report considerable much more sustainability information compared to corporations that are not part of a sustainability index (non-ISE corporations). Following Orsato *et al.*'s (2015) conclusion that ISE participation naturally happens when corporations try to incorporate sustainability in their corporate governance and business strategies, non-ISE corporations may be viewed as not having incorporated sustainability in their corporate governance, while the ISE corporations already have done so at least since 7 years before issuing the reports in this sample. Although non-ISE corporations may try to align sustainability and business strategies with each other in order to join ISE (Araya, 2006). But the fact that they have not joined the index indicates that there are corporations that have better sustainability reporting practices.

4.5 Summary

The main findings from the total sample regard (1) the most reported series and (2) the most used data formats. Regarding the first finding, the *universal* series is the most reported by far, followed by *social sustainability*, *economic sustainability*, *environmental sustainability* and lastly *sector disclosures*. The considerable use of *universal* was explained by the characteristics of the standards (Global Reporting Initiative, 2016). Regarding the second finding, tables are considerably more used than diagrams, which are more used than figures. This finding was believed to have two reasons. First, due to readers' preference to look at figures and diagrams rather than tables and words (Grant, 2018) and corporations' wish to portrait themselves and their businesses in a good light (Hahn & Kühnen, 2013), corporations may be selective with formatting. Second, due to many disclosures in the format of numbers, it may be easier and less spacious to use tables instead of figures and diagrams.

When it comes to size, the belief was that larger corporations report more sustainability information in comparison to smaller corporations (Fifka, 2013; Hahn & Kühnen, 2013; Alonzo-Almeida *et al.*, 2015; Hummel & Schlick, 2016). Although the largest corporation indeed report more than the smallest corporation in the sample, the results were inconclusive due to large variations in the sample.

There were several findings regarding industries. First, sustainability reporting by the utilities industry seems to differ significantly from sustainability reporting by the CNC and financial industries. These differences were attributed to the utility industry's characteristics. The second finding was that environmental sustainability reporting did not differ between industries as much as expected with regards to previous research. The analysis of the GRI standards further suggested that there are large differences between the standards within each series, and that specific standards from little reported series receive significant attention and vice versa. This finding reflects GRI's materiality requirements, i.e. that corporations only should report on the topics that are important to their corporations and their stakeholders (Global Reporting Initiative, 2016).

Lastly, the sustainability index participation results show that corporations that participate in sustainability indices (ISE corporations) in absolute terms indeed report more than corporations which do not participate in those indices (non-ISE corporations). Sustainability index

participation might be regarded as an indicator which shows that the participating corporations have comparatively good sustainability reporting. The results indicates that *good* does not mean that a considerable/main portion of the reporting include sustainability aspects, but rather that the quality – in terms of number of tables, KPIs etc – is higher.

As a final remark, it is important to remember that this study aimed to describe Brazilian sustainability reporting rather than find relationships between certain determinants and sustainability reporting. Hence, it was of no interest to use several possible determinants for the descriptive purpose. Other possible determinants such as public performance or external assurance (Fifka, 2013; Hahn & Kühnen, 2013; Hummel & Schlick, 2016) have not been considered. Furthermore, the reviewed determinants (i.e. size, industry and sustainability index participation) have not been tested against each other due to the difficulty of the sample characteristics and the purpose of the thesis. It is possible that other determinants, or combinations of determinants, better explain the characteristics of Brazilian sustainability reporting.

5. Discussion

This chapter seeks to indicate some paths for future research by focusing on two themes. The first theme regards the contrasting results between the present study and previous research on corporation characteristics as sustainability reporting determinants, while the second theme concerns the level of detail with which sustainability reporting research reflects corporations' sustainability reporting practices.

5.1 Contrasting results

Only some of the results from this investigation were in line with previous research, while most of them were not. Contrary to expectation, there was only one distinct industrial difference, i.e. the reporting practices by the utilities industry were different from the reporting practices by the other two industries. However, this finding did neither regard reporting on environmental sustainability, nor was it expected. Two other findings were in contrast to previous research, namely (1) the results did not indicate any large differences between environmental sustainability reporting on the basis of industrial classification and (2) differences with regards to size were inconclusive. Differences in sustainability reporting based on sustainability index participation have, to the author's knowledge, not been extensively researched before. However, the results correspond to the expectations of previous sustainability index research that participating corporations have better sustainability reporting in comparison to non-participating corporations (Araya, 2006; Orsato *et al.*, 2015).

Except for the inconclusive results on size, the only finding that was partly similar to previous research was the differences between industries – and this finding was only partly similar. It is difficult to know to what extent the unexpected results of this thesis reflect the overall situation of Brazilian sustainability reporting or result from a methodological problem related to a small or skewed sample. Some of these findings may also be applicable to a wider, global context, but further research is needed in order to explore this possibility. For example, more research on other sustainability indices may be needed in order to put the possible effects of sustainability index participation into context.

Although differences in sustainability reporting based on differences in corporations' characteristics have been found in this thesis, it is difficult to say whether these exist because of stakeholder pressures or due to some other explanation. For example, stakeholders are often thought to pressure larger corporations to disclose more sustainability information (Fifka, 2013; Hahn & Kühnen, 2013; Alonzo-Almeida *et al.*, 2015; Hummel & Schlick, 2016), but also environmentally sensitive corporations to disclose more environmental sustainability (Campbell, 2003; Araya, 2006; Fifka, 2013; Alonzo-Almeida *et al.*, 2015). However, neither of these arguments was clearly supported by the findings in this thesis. Indeed, differences between sustainability reporting on the basis of industries were found, but these differences did not correspond to the expectations of previous research. It may be the case that industries face stakeholder pressures in different ways that do not simply correlate with more or less reporting or it may be that stakeholder pressures are relatively weak in the Brazilian context or even that the interests of individual corporations are diverse enough that industry is a poor predictor for differences in sustainability reporting. A closer look at each corporation's activities and the certain characteristics that distinguish one industry from another would be desirable in future studies of this kind.

The significant differences that were found based on sustainability index participation and data formats are also difficult to explain with reference to stakeholder pressures. Other theoretical grounds may be used to explain these differences, such as the reviewed reasons for why corporations participate in sustainability indices (Orsato *et al.*, 2015) and how data presentation impacts information retention (Grant, 2018).

Moving on, corporations may indeed decide to improve their sustainability reporting due to stakeholder pressures and therefore be awarded by the possibility to participate in sustainability indices (e.g. Orsato *et al.*, 2015). Orsato *et al.* (2015) also state that sustainability indices may be a source of knowledge and therefore, it is possible that sustainability index participation is one of the reasons for the significant differences in sustainability reporting. According to this line of thought it is not only the case that corporations with the best sustainability reporting participate in indices, but that sustainability index participation itself may spur improved reporting. Such a relationship could perhaps result from corporations' desire to remain part of the index or from a continued integration of business strategies and sustainability (see Orsato *et al.*, 2015). Again, as

there is little research on differences in sustainability reporting based on sustainability index participation; this field needs to be explored in order to draw final conclusions about a relationship between these variables.

It is difficult to describe the results of this thesis as markedly or obviously Brazilian. Part of this difficulty is due to its descriptive nature, but more importantly, it is incredibly difficult to make direct comparisons to previous research. Despite the fact that GRI is often used as the basis for content analyses in sustainability reporting research (Fifka, 2012), there are important differences between virtually all studies. It is therefore very difficult to situate Brazil in relation to other countries. This problem is in fact even more severe because it is thought to exist national and cultural specificities which relate to how sustainability reporting is conducted and not only to the extent of sustainability reporting (Matten & Moon, 2008; Muller & Kolk, 2009; Steurer & Konrad, 2009; Ehnert et al., 2016). It has been argued that policies in developing countries tend to prioritize economic development and that sustainability, both in terms of practice and reporting, consequently is relegated to a secondary concern (Fifka, 2013). The result is perhaps a lower adoption rate of voluntary standards such as those provided by the GRI (e.g. Gill et al., 2008). But what little previous research there is indicates that Brazil is either an exception to this rule or proof that developing countries are closing the sustainability reporting gap (Fifka, 2012; KPMG, 2011; 2015; 2017). Although this may be the case, it is very difficult to judge how good Brazilian sustainability reporting practices actually are. Perhaps it would be useful in this scenario to eschew international comparison on a normative scale of better/worse and instead ask if corporations provide adequate sustainability disclosures for their and their stakeholders' needs.

In conclusion, a number of questions arise, such as why certain series or data formats are most used; what makes the utilities industry differ from other industries and why certain reporting practices are deemed better than others. One reason may indeed be stakeholder pressures, another reason may be reputation management (Campbell, 2003; Hahn & Kühnen, 2013), while a third reason may be the way the GRI standards are structured and used (Global Reporting Initiative, 2016). In the end, these questions and speculative explanations are out of the primarily descriptive scope of this thesis to confirm and would require further research. Such research would be advised to take into account corporations' activities and views in a socio-environmental

context and be less reliant on examining relationships between isolated variables such as size, industry and sustainability reporting.

5.2 Level of detail

Regarding the second theme, previously cited research seems to have discussed sustainability reporting from one main ground, i.e. differences between sustainability reporting practices based on country, size, industry and other determinants (e.g. Campbell, 2003; Araya, 2006; Gill *et al.*, 2008; Ehnert *et al.*, 2016; Fifka, 2016; Hummel & Schlick, 2016). The situation is often portrayed as if corporations with certain characteristics (i.e. is of a certain size or belong to a certain industry or country) report more on sustainability than corporations with other characteristics. Either sustainability in general or categories like economic, environmental and/or social sustainability are primarily used as a basis for this discussion. For example, researchers argue that the industry characteristics of the environmentally sensitive corporations explain why stakeholders pressure these corporations to report more on environmental sustainability in comparison to corporations that are not regarded as environmentally sensitive (Campbell, 2003; Araya, 2006; Sen *et al.*, 2011; Fifka, 2013; Alonzo-Almeida *et al.*, 2015). While this thesis is no exception, it also attempted break categories down into their constituting topics as suggested by the GRI (2018). For example, the GRI series concerning *environmental sustainability* includes standards that refer to topics such as energy and emissions, while *social sustainability* includes standards pertaining to child labor as well as security practices. All topics covered by the GRI standards are shown in the appendix. The enhanced level of detail resulted in the conclusion that perhaps one series is not more important than the other, but rather certain *topics* included in the series may be more important than other topics. There seems to be a more complex situation than, for example, simply stating that social sustainability seems to be more important than environmental sustainability.

Perhaps it is solely a matter of *importance* that circulates in the sustainability research and requirements. For example, the Global Reporting Initiative (2016) requires corporations to judge sustainability topics from a materiality perspective to decide whether the topics should be reported or not. Environmentally sensitive corporations should report more on environmental sustainability in order to keep their stakeholders pleased, i.e. it matters more to environmentally

sensitive corporations to report on environmental sustainability in contrast to other corporations (Campbell, 2003; Araya, 2006; Sen *et al.*, 2011; Fifka, 2013; Alonzo-Almeida *et al.*, 2015). The same argument can be transferred to specific sustainability topics, where it may be the case that corporations that are concerned with particular topics report more on those (Campbell, 2003; Ehnert *et al.*, 2016). Should this possibility be true, it would complicate research that primarily looks at a more abstract level of detail.

For example, while looking at the total sample, the most reported GRI series were in descending order: *universal*, followed by *social sustainability, economic sustainability*, *environmental sustainability* and lastly *sector guidelines*. Excluding the *universal* series, when this finding was broken down into industries, it was found that only two of three industries (the CNC and the financial industries) reported the most on *social sustainability*. When this finding was further broken down into standards, it was found that the most reported standards by the CNC and the financial industries both belonged to the *economic* rather than the *social sustainability* series. This breakdown shows that there is more to the story than the notion that corporations with certain characteristics report more or less on economic/environmental/social sustainability than corporations without these characteristics.

These problems are furthermore reflective in the dominant use of the GRI framework as the methodological ground for a significant amount of sustainability reporting research (Fifka, 2012), including this thesis. While the GRI framework is highly useful because it makes results between different studies comparable to an extent that would be unlikely with disparate operationalizations of sustainability (e.g. Hahn & Kühnen, 2013; Ehnert *et al.*, 2016; Global Reporting Initiative, 2016), it is a distinct possibility that some sustainability reporting aspects are hidden as a consequence. For instance, it is not necessarily the case that all corporations' main sustainability concerns are reflected in the GRI framework.

In addition, the quantity of reported sustainability data is typically used as a measurement for the importance of its particular contents to the reporting corporations (Campbell, 2003; Ehnert *et al.*, 2016). However, the results of this thesis show that some data formats were used more than other formats. Data formats may also indicate importance as important data is probably reported in certain formats to ensure that stakeholders read this data and vice versa (Grant, 2018). It is possible that formatting corresponds to corporations' desire to emphasize those parts of their

sustainability practices that they believe are important for stakeholders to know, e.g. information that enhances their reputations (e.g. Grant, 2018). Based on Hummel and Schlick (2016), it was further argued that the use of certain formats may be an indication of data quality, since some formats tend to contain higher quality data. How data formats relate to sustainability reporting is to the author's best knowledge not researched to a wide degree and these findings tells us that there is more to sustainability reporting than its extent.

6. Conclusions

A significant part of the world's population and natural environment reside in developing countries (Dissanayake *et al.*, 2016; Instituto Brasileiro de Geografia e Estatística, 2018). These countries may also not manage the consequences of unsustainable business practices as well as their developed counterparts (Smit & Pilifosova, 2001). Recognizing that sustainability reporting is an important part of corporations' sustainability practices (Hahn & Kühnen, 2013) and that the research on sustainability reporting in developing countries is limited (Araya, 2006; Gill *et al.*, 2008; Belal & Momin, 2009; Fifka, 2013; Kumar *et al.*, 2015; Dissanayake *et al.*, 2016; Şener *et al.*, 2016), this thesis aimed to describe sustainability reporting by Brazilian corporations listed on the B3 stock exchange.

The method used to fulfill this purpose was a content analysis of 12 corporations' annual reports from the year 2017. Sustainability information was defined as reporting contents with references to the GRI standards and measured through the number of pages, words, tables, figures and diagrams. The results were then evaluated on the basis of three likely sustainability reporting determinants, i.e. size (defined as number of employees), industry and sustainability index participation.

There are several valuable contributions from this thesis. First, it describes sustainability reporting in Brazil, which is a rather unexplored context in sustainability reporting research. That said, this thesis explored *how* sustainability was reported by Brazilian corporations instead of just exploring the *extent* of certain reported sustainability information. This thesis also contributes to research by raising the question of how sustainability index participation relates to sustainability reporting practices. However, the perhaps most important contribution is that it stresses the importance of the level of detail in sustainability research. Researchers have often argued that sustainability, or particular categories such as economic, environmental and/or social sustainability, varies in importance for different corporations based on the corporations' characteristics (e.g. Campbell, 2003; Araya, 2006; Fifka, 2013; Alonzo-Almeida *et al.*, 2015). A suggestion for future research would therefore be that sustainability should be broken down into smaller topics before it is evaluated, and that not only the *extent* of sustainability reporting should be kept in mind, but also *how* sustainability is reported as it may reflect the relative importance that corporations' place on particular topics.

There are some limitations to this thesis. The most glaring problems are its small sample size and incomplete coverage of industries, its complete reliance on English language reports and its sole use of GRI standards as a way to operationalize sustainability. The use of reports rather than other media types such as websites is another limitation which prevents the results from this thesis to be generalized to all Brazilian sustainability reporting. Despite these problems, the thesis provides a number of indications for future research.

While there is much work to be done on sustainability reporting in developing countries in general, and Latin America in particular, there are a number of clear gaps that emerges from this thesis. What should be on top of the order of priorities is research on sustainability reporting in other languages than English. Interlanguage studies may play an important part in facilitating a broader understanding of sustainability reporting as it happens in different linguistic and cultural situations (e.g. Matten & Moon, 2008; Ehnert *et al.*, 2016).

Secondly, the effects and outcomes of sustainability index participation on sustainability reporting practices is a rather unexplored research field. While this thesis shows that index participants report more sustainability information in absolute terms, it is not certain that more information equals more adequate reporting and more qualitative research on this field is therefore needed.

A third point concerns the importance of understanding the economic, environmental and social contexts of sustainability reporting. It is certainly possible that the inconclusive results of this study are due to either a flawed methodology or that Brazilian sustainability reporting simply functions differently from other countries. Even so, future research may benefit from contextualizing the contents of sustainability reporting and from using a notion of adequacy rather than falling back on a more/less continuum that corresponds to on one or several sustainability reporting determinants. In the end, sustainability reporting *happens* and takes place in the complicated relationships that obtain between corporate operations and different stakeholders (e.g. Matten & Moon, 2008; Ehnert *et al.*, 2016). Research needs to understand the dynamics of these relationships and what causes sustainability reporting to be adequate or inadequate in given situations. A significant aspect would be to continue moving away from simplistic categories such as economic, environmental and social sustainability in favour of the actual contents of such categories.

References

Alonso-Almeida, M. D. M., Marimon, F., Casani, F., & Rodriguez-Pomeda, J. (2015). Diffusion of sustainability reporting in universities: Current situation and future perspectives. *Journal of Cleaner Production*, 106, 144 – 154. doi: 10.1016/j.jclepro.2014.02.008

Araya, M. (2006). Exploring Terra Incognita: Non-financial Reporting in Corporate Latin America. *Journal of Corporate Citizenship*, 21, 25 – 38.

Belal, A.R., & Momin, M. (2009). Corporate social reporting (CSR) in emerging economies: A review and future direction. *Accounting in Emerging Economies*, 9, 119 – 143. doi:10.1108/S1479-3563(2009)0000009007

BM&FBOVESPA. (2017). BM&FBOVESPA publishes the 12th portfolio of the Corporate Sustainability Index (ISE). Available online: http://www.bmfbovespa.com.br/en_us/products/indices/sustainability-indices/corporate-sustainability-index-ise.htm [Accessed 8 December 2018].

B3. (2018). Corporate Sustainability Index (ISE). Available online: http://www.bmfbovespa.com.br/en_us/products/indices/sustainability-indices/corporate-sustainability-index-ise.htm [Accessed 8 December 2018].

Bryman, A., & Bell, E. (2011). *Business Research Methods*. Oxford: Oxford University Press.

Campbell, D. (2003). Intra- and intersectoral effects in environmental disclosures: evidence for legitimacy theory? *Business Strategy and the Environment*, 12, 357 – 371.

Carroll, A. B. (1979). A Three-Dimensional Conceptual Model of Corporate Performance. *The Academy of Management Review*, 4 (4), 497 – 505.

Carroll, A. B. (1999). Corporate Social Responsibility: Evolution of a Definitional Construct. *Business & Society*, 38(3), 268 – 295.

Dahlsrud, A., 2008. How corporate social responsibility is defined: an analysis of 37 definitions. *Corporate Social Responsibility and Environmental Management,* 15, 1 – 13. doi: 10.1002/csr.132

Dissanayake, D., Tilt, C., & Xydias-Lobo, M. (2016). Sustainability reporting by publicly listed companies in Sri Lanka. *Journal of Cleaner Production*, 129, 169 – 182. doi: 10.1016/j.jclepro.2016.04.086

Dyllick, T., & Hockerts, K., 2002. Beyond the business case for corporate sustainability. *Business Strategy and the Environment*, 11, 130 – 141.

Ehnert, I., Parsa, S., Roper, I., Wagner, M., & Muller-Camen, M. (2016). Reporting on sustainability and HRM: a comparative study of sustainability reporting practices by the world's largest companies, *The International Journal of Human Resource Management*, 27 (1), 88 – 108. doi: 10.1080/09585192.2015.1024157

Elkington, J., (1997). *Cannibals with Forks: the Triple Bottom Line of 21st Century Business.* Capstone: Oxford.

Fifka, M., (2012). The development and state of research on social and environmental reporting in global comparison. *J. Betriebswirtsch.* 62 (1), 45 – 84. doi: 10.1007/s11301-012-0083-8

Fifka, M. (2013). Corporate Responsibility Reporting and its Determinants in Comparative Perspective – a Review of the Empirical Literature and a Meta-analysis. *Business Strategy and the Environment*, 22, 1 – 35. doi: 10.1002/bse.729

Fukukawa, K., & Teramoto, Y. (2009). Understanding Japanese CSR: The Reflections of Managers in the Field of Global Operations. *Journal of Business Ethics,* 85, 133 – 146. doi: 10.1007/s10551-008-9933-7

Gill, D.L., Dickinson, S.J., & Scharl, A. (2008). Communicating sustainability: A web content analysis of North American, Asian and European firms. *Journal of Communication Management*, 12 (3), 243 – 262. doi: 10.1108/13632540810899425

Global Reporting Initiative. (2016). *GRI 101: Foundation 2016.* Amsterdam: Global Reporting Initiative.

Global Reporting Initiative. (2018). *GRI standards download center.* Available online: https://www.globalreporting.org/standards/gri-standards-download-center/ [Accessed 8 December 2018].

Global Reporting Initiative. (2019a). *About GRI.* Available online: https://www.globalreporting.org/information/about-gri/Pages/default.aspx [Accessed 19 March 2019].

Global Reporting Initiative. (2019b). *About sustainability reporting.* Available online: https://www.globalreporting.org/information/sustainability-reporting/Pages/default.aspx [Accessed 19 March 2019].

Global Reporting Initiative. (2019c). *GRI's history.* Available online: https://www.globalreporting.org/information/about-gri/gri-history/Pages/GRI's%20history.aspx [Accessed 7 May 2019].

Global Reporting Initiative. (2019d). *GRI G4 sector disclosures.* Available online: https://www.globalreporting.org/information/sector-guidance/Pages/default.aspx [Accessed 11 May 2019].

Grant, R. (2018). *Data Visualization: Charts, Maps, and Interactive Graphics*. New York: Chapman and Hall/CRC.

Hahn, R., & Kühnen, M. (2013). Determinants of sustainability reporting: A review of results, trends, theory, and opportunities in an expanding field of research. *Journal of Cleaner Production*, 59, 5 – 21. doi:10.1016/j.jclepro.2013.07.005

Hummel, K., & Schlick, C. (2016). The relationship between sustainability performance and sustainability disclosure – Reconciling voluntary disclosure theory and legitimacy theory. *Journal of Accounting and Public Policy*, 35, 455 – 476.

Instituto Brasileiro de Geografia e Estatística. (2018). IBGE Instituto Brasileiro de Geografia e Estatística. Available online: https://www.ibge.gov.br/en/ [Accessed 6 December 2018].

Jain, R., & Winner, L. H. (2016). CSR and sustainability reporting practices of top companies in India. *Corporate Communications: An International Journal*, 21 (1), 36 – 55.

KPMG. (2011). The KPMG Survey of Corporate Responsibility Reporting 2011. Available online: https://www.kpmg.de/docs/Survey-corporate-responsibility-reporting-2011.pdf [Accessed 3 December 2018]

KPMG. (2015). Currents of change: The KPMG Survey of Corporate Responsibility Reporting 2015. Available online: https://assets.kpmg.com/xx/en/home/insights/2015/11/kpmg-international-survey-of-corporate-responsibility-reporting-2015.html [Accessed 3 December 2018]

KPMG. (2017). The road ahead: The KPMG Survey of Corporate Responsibility Reporting 2017. Available online: https://assets.kpmg.com/xx/en/home/insights/2017/10/the-kpmg-survey-of-corporate-responsibility-reporting-2017.html [Accessed 29 November 2018]

Kumar, V., Gunasekaran, A., Singh, K., Papadopoulos, T., & Dubey, R. (2015). Cross sector comparison of sustainability reports of Indian companies: A stakeholder perspective. *Sustainable Production and Consumption*, 4, 62 – 71. doi: 10.1016/j.spc.2015.08.005

Lozano, R., & Huisingh, D. (2011). Inter-linking issues and dimensions in sustainability reporting. *Journal of Cleaner Production*, 19, 99 – 107.

Matten, D. and Moon, J. (2008). Implicit and explicit CSR: a conceptual framework for understanding CSR in Europe. *Academy of Management Review*, 33 (2), 404 – 424.

Muller, A., & Kolk, A. (2009). CSR Performance in Emerging Markets Evidence from Mexico. *Journal of Business Ethics*, 85, 325 – 337. doi: 10.1007/s10551-008-9735-y

Nölke, A. (2010). A "BRIC"-variety of capitalism and social inequality: The case of Brazil. *Revista de Estudos e Pesquisas sobre as Américas*, 4 (1). doi: 10.21057/repam.v4i1.3441

Orsato, R. J., Garcia, A., Mendes-Da-Silvia, W., Simonetti, R., & Monzoni, M. (2015). Sustainability indexes: why join in? A study of the 'Corporate Sustainability Index (ISE)' in Brazil. *Journal of Cleaner Production*, 96, 161 – 170.

Pérez, A., & Rodríguez del Bosque, I. (2014). Sustainable development and stakeholder relations management: Exploring sustainability reporting in the hospitality industry from a SD-SRM approach. *International Journal of Hospitality Management*, 42, 174 – 187. doi: 10.1016/j.ijhm.2014.07.003

Perez-Batres, L. A., Miller, V. V., Pissani, M. J., Henriques, I. & Renau-Sepulveda, J. A. (2012). Why Do Firms Engage in National Sustainability Programs and Transparent Sustainability

Reporting? Evidence from Mexico's Clean Industry Program. *Management International Review*, 52, 107 – 136. doi: 10.1007/s11575-011-0098-8

Paul, K., Cobas, E., Ceron, R., Frithiof, M., Maass, A., Navarro, I., Palmer, L., Serrano, L., Deaton, L. Z. (2006). Corporate Social Reporting in Mexico. *Journal of Corporate Citizenship*, 22 (Summer), 67 – 80.

Sen, M., Mukherjee, K., & Pattanayak, J.K. (2011). Corporate environmental disclosure practices in India. *Journal of Applied Accounting Research*, 12 (2), 139 – 156.

Şener, İ., Varoğlu, A., Karapolatgil, A. A. (2016). Sustainability Reports Disclosures: Who are the Most Salient Stakeholders? *Procedia - Social and Behavioral Sciences* 235, 84 – 92.

Smit, B., Pilifosova, O. (2001). Adaptation to climate change in the context of sustainable development and equity. In McCarthy, J.J., Canziani, O., Leary, N.A., Dokken, D.J. and White, K.S. (eds.). *Climate change 2001: impacts, adaptation and vulnerability.* IPCC Working Group II. Cambridge: Cambridge University Press, 877–912.

Steurer, R., & Konrad, A. (2009). Business—society relations in Central-Eastern and Western Europe: How those who lead in sustainability reporting bridge the gap in corporate (social) responsibility. *Scandinavian Journal of Management*, 25, 23 – 36.

Welford, R. (2004). Corporate social responsibility in Europe and Asia: critical elements and best practice. *Journal of Corporate Citizenship*, 13, 31 – 47.

World Bank. (2019). GDP (Current US$). Available online: https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?fbclid=IwAR03srho1vuoj2k-M0nPU-otPN-taHlQEiYusMH-pyRUdK8XVD5xtw62xf4&most_recent_value_desc=true [Accessed 11 May 2019].

World Commission on Environment and Development WCED, (1987). Report of the World Commission on Environment and Development: Our Common Future. Available online: http://www.un-documents.net/our-common-future.pdf [Accessed 20 March 2019].

Appendix – GRI standards

100 Series - Universal standards

GRI 101   Foundation 2016
GRI 102   General Disclosures 2016
GRI 103   Management Approach 2016

200 Series - Economic standards

GRI 201   Economic Performance 2016
GRI 202   Market Presence 2016
GRI 203   Indirect Economic Impacts 2016
GRI 204   Procurement Practices 2016
GRI 205   Anti-corruption 2016
GRI 206   Anti-competitive Behavior 2016

300 Series - Environmental standards

GRI 301   Materials 2016
GRI 302   Energy 2016
GRI 303   Water and Effluents 2018
GRI 304   Biodiversity 2016
GRI 305   Emissions 2016
GRI 306   Effluents and Waste 2016
GRI 307   Environmental Compliance 2016
GRI 308   Supplier Environmental Assessment 2016

400 Series - Social standards

GRI 401   Employment 2016
GRI 402   Labor/Management Relations 2016
GRI 403   Occupational Health and Safety 2018
GRI 404   Training and Education 2016
GRI 405   Diversity and Equal Opportunity 2016
GRI 406   Non-discrimination 2016
GRI 407   Freedom of Association and Collective Bargaining 2016
GRI 408   Child Labor 2016
GRI 409   Forced or Compulsory Labor 2016
GRI 410   Security Practices 2016
GRI 411   Rights of Indigenous Peoples 2016
GRI 412   Human Rights Assessment 2016
GRI 413   Local Communities 2016
GRI 414   Supplier Social Assessment 2016
GRI 415   Public Policy 2016
GRI 416   Customer Health and Safety 2016
GRI 417   Marketing and Labeling 2016
GRI 418   Customer Privacy 2016
GRI 419   Socioeconomic Compliance 2016

Sector disclosures

AO	Airport Operators
CRE	Construction and Real Estate
EU	Electric Utilities
EO	Event Organizers
FS	Financial Services
FP	Food Processing
M	Media
MM	Mining and Metals
NGO	NGO
OG	Oil and Gas