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Master´s Thesis

How a company can identify the relevant non-financial material issues within their industry?

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Abstract

More and more companies choose to use the sustainability reporting frameworks to report on their non-financial issues. Research shows that reporting can have a positive impact on legitimacy as well as the economic performance of the companies that disclose their materiality. A variety of non-financial frameworks has been developed to help enterprises communicate their commitment to fighting global warming and effects their operations have on the environmental, social, and governmental level as well as to encourage the involvement of the stakeholders. However, the studies show a division in the distribution of companies that report depending on the industry and geography. The construction sector is one of the biggest greenhouse emitters and one of the least transparent industries with around one-third of the companies not disclosing their sustainability through a framework. Those discrepancies led to investigating how a construction materials company can recognize the most relevant sustainability issues within their industry?

Based on the available disclosures a GRI framework and the materiality analysis were chosen to be used as a tool throughout the study. Quantitative research was chosen. A survey was conducted with the stakeholders of the case company, within the construction materials, to familiarize oneself with the views on material issues pertaining to the industry. Additionally, an analysis of sustainability reports from international construction materials companies was conducted to cross-check the materiality of the topics selected in the survey. The results highlighted the relevant issues for the industry with the top three being occupational health and safety, environmental footprint, and customer welfare. The study was wrapped up with discussing the relevant themes that occurred throughout the research process such as the importance of risk management, the importance of management when aiming to be transparent, and the future of reporting.

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1. Introduction

With the rise of awareness on how companies' operations influence not only their stakeholders but also the environment, there has been a rise in transparency and reporting efforts (Chashchyna, 2019). According to Holder-Webb's study (2009), non-financial measures provide stakeholders with a better overview of the company's performance. The different scandals of world-known companies like Nike, Nestle, or Shell showed repercussions companies can face when acting against the perceived best practice guidelines (Gonzalez-Perez & Leonard, 2015). The scandals affected the trust and reputation and were paired with financial damages such as lower sales or a drop in value on the stock exchange (Culcasi, Ruozzi, Sandia & Valle, 2010). Subsequently, many corporations had recognized the need for a more holistic approach to tackling the complex sustainability issues ("Why Sustainable Development Goals should be in your business plan", 2017). Corporate sustainability is focused on "aligning the products and services with the stakeholders" thus creating "economic, social and environmental value" (Gonzalez-Perez & Leonard, 2015).

According to Arvidsson (2018), there are three arguments for why companies should report their sustainability: i) "gaining, maintaining and/or repairing legitimacy" ii) "improving stakeholder relations" iii) "decreasing information asymmetry". Furthermore, recent studies recognized a positive correlation between sustainability activities and economic performance ("Why Sustainable Development Goals should be in your business plan", 2017). The Business & Sustainable Development Commission established that business models supporting SDG's have access to a much wider market worth 12 trillion dollars ("Why Sustainable Development Goals should be in your business plan", 2017).

However, there are major differences between countries and continents on how many of their companies disclose their sustainability efforts (Blasco & King, 2017). The most transparent are the companies in the continents of north and south America with Europe being second to last (Blasco & King, 2017). Compared with other countries Denmark is in the top 10 countries where corporate responsibility reporting is part of the annual financial reports (Blasco & King, 2017). According to a study done by CBS (2013), more than 90% of companies include CSR reports in their yearly publications. However, there was no information on how this division looks like on industry level in Denmark. Looking at an international industry level the 2017

KPMG report states that the companies producing Oil and Gas disclose their sustainability the most whereas the least transparent is the Retail industry (Blasco & King, 2017). The Construction & Materials industry is located closer to the tail end with 69% of the N100[1] manufacturing companies disclosing their CSR (Blasco & King, 2017). It is almost 15% less compared to the industry leader (Blasco & King, 2017). Based on the academic literature the reasons may be a larger expectation from the stakeholders to disclose material issues or more prominent and well-established risks that come from operations in the industry.

The largest principle-based sustainability initiative has been the one led by the United Nations called Global Compact (Mugwira & Nissim, 2018). They focus on universal principles such as human rights, labor, environment, and anti-corruption ("What is the UN Global Compact | UN Global Compact", 2020). To further their agenda in 2015 the United Nations had established 17 Sustainable Development Goals (SDGs) that aim to give a visionary look into the most important societal issues that our world is experiencing ("Sustainable Development Goals: Sustainable Development Knowledge Platform", n.d.). The goals were established with inputs from companies, academics, and nonprofit organizations ("Why Sustainable Development Goals should be in your business plan", 2017). They combine political objectives with ethical economic development and social change (Rendtorff, 2019). To get more companies on board they created a partnership with a Global Reporting Initiative ("GRI and the SDGs", n.d.). The choice to partner up with this specific framework could be seen as apparent with GRI being the most used sustainability reporting framework all around with more than two-thirds of the companies applying it (Blasco & King, 2017).

However, there has also been some criticism around sustainable reporting. The first major issue the non-financial reporting faced was a perceived lack of value (Arvidsson, 2018). Secondly, there is no uniformity between the standards (Munoz, Zhao & Yang, 2017). This affects the comparability aspect of the frameworks as depending on the disclosure the definition of materiality differs. However, those critiques have been amended to some degree. The creation of Sustainable Development Goals helped with closing the gap on missing value as well as allowed to hold companies accountable in how they deal with arising risks ("Why Sustainable Development Goals should be in your business plan", 2017). Furthermore, in 2019 Task Force on Climate-Related Financial Disclosure aligned the practices of all other major

[1] Worldwide sample of 100 top companies by revenue for each of 49 countries researched in the KPMG study.

disclosures with its own focus to give a more uniform structure to sustainability reporting (The Task Force on Climate-related Financial Disclosures, 2019).

As mentioned, sustainability reports are voluntary and universal thus allow for certain flexibility in what aspects they decide to disclose (Munoz, Zhao & Yang, 2017). It is up to the company to choose the indicators they will be reporting on and GRI provides only guidelines on what topics might be of relevance (Munoz, Zhao & Yang, 2017). The specific issues will differ among the industries and even among companies within the same industry due to the different strategic approaches companies can take when identifying the material issues (Wunder, 2019).

Nonetheless, there are a lot of reports that collect the disclosed data to rank companies and the industries on their sustainability efforts. One of them is the Sustainable Brand Index that focuses primarily on the Scandinavian market and the key industries for each country (Sustainable Brand Index, 2020). The 2020 report describes 23 industries in Denmark such as airline, automotive, hospitality, or food and drink (Sustainable Brand Index, 2020). The construction materials industry is not included in the Sustainable Brand Index study. The building materials sector accounts for 6% of the Danish national revenue ("Statistikbanken", n.d.). Unfortunately, there were no studies found that compare sustainability subjects' Danish stakeholders find relevant for the construction materials industry. An industry that is very closely related to construction materials is construction. A report done by Ramboll in 2019 identified the "drivers of sustainability" for the industry (Ramboll, 2019). The identified topics were high quality, operational savings, lower vacancy rates, increased market demand, reduced risks and capital costs, regulatory incentives, high property value, and lastly the higher rent levels (Ramboll, 2019).

The construction industry in Denmark also relies on third-party certifications like DGNB or LEED that some of the construction materials companies use as well (Ramboll, 2019). The companies seek their approval mainly for quality assurance that their recognizable identity provides (Ramboll, 2019). The most established in Denmark is the DGNB scheme (Ramboll, 2019). The certified buildings have to fulfill several performance criteria in three categories: (1) environmental (2) economic and (3) social (Green Building Council Denmark, 2017). Because the two industries are so closely related looking at the issues now and on the future of construction can help with identifying the direction construction materials sector can go

towards. Some of the big future trends are the lifecycle management and circular economy of resources (Ramboll, 2019). That focus is being backed by the national regulators as well as policies created by the European Union which aim at lowering the CO2 emissions (Ramboll, 2019). The key to achieving the goal is implementing lifecycle thinking across all industries (Ramboll, 2019).

Research question

As mentioned before there were no studies identified that described the key sustainability issues for the construction materials industry. Thus, this study will focus on identifying how a construction materials company can recognize the most relevant sustainability issues within their industry?

2. Literature review

The literature review section will be divided into three parts. First, I will introduce the topic of sustainability reporting and the trends among the industries. In the second part, I will move on to discuss the most popular sustainability frameworks used by companies. I will conclude that analysis by choosing the framework that will be used throughout the project. Lastly, I will describe the tools, the chosen disclosure uses for the analysis and discussion part of the report.

The sustainability strategy is not the same as the corporate social responsibility (CSR) strategy. According to Bansal and DesJardine (2015), a lot of people mistakenly use the terms interchangeably without understanding the differences between the two. Corporate Social Responsibility strategy is focused around "balancing current stakeholder interests" whereas sustainability strategy "balances resource usage and supplies over time" (Bansal & DesJardine, 2015). What is more CSR strategies can be unsustainable with how they "borrow the resources and capital from the future" which can enlarge the imbalance of the assets (Bansal & DesJardine, 2015). In 2004 the European Union (EU) has recognized the need for companies to report their impacts on the environment, labor, and human rights and published a 2014/95/EU directive (2014/95/EU). However, the law only applies to large (over 500 employees), public-interest entities that allow for a lot of private or smaller businesses to not disclose their impact (Masse, 2014). Furthermore, CSR reporting has no agreed-upon standards that would allow for comparability (Bonde Christensen, Hail & Leuz, 2019). In comparison, sustainable reporting frameworks are more standardized and quantitative and target different segments of the non-financial market (Vives, 2016). According to the 2017 KPMG survey (2017) on Fortune 500 companies (G250) as well as a sample of 100 companies from 49 countries (N100), respectively 95% and 75% of businesses report their sustainability. The most popular framework used is the Global Reporting Initiative (GRI) standards with respectively 75% of G250 companies and 63% of N100 corporations applying it (Blasco & King, 2017). Other frameworks that are used by major businesses are SASB standard as well as CDP and IIRC (Aquila, 2018).

The cause for why there is such a big difference between G250 and N100 enterprises in sustainability reporting could be that it has been found that non-financial disclosing spreads in clusters instead of consistently across. (Higgins, C., Stubbs, W. & Milne, M; 2018). The 2017 study done by KPMG shows the disparity between different regions and industries in how many companies report their sustainability (Blasco & King, 2017). The reason for it may be a lack of institutional or stakeholder pressures for companies to disclose their non-financial reports (Higgins, C., Stubbs, W. & Milne, M; 2018).

Those discrepancies are addressed by the institutional theory that specifies that organizations are affected by other institutions and not only by their focus on making a profit (Herold, 2018). Thus, it investigates the external forces such as pressures of stakeholders as well as the nature of social choices from how they are created, mediated, and channeled in the environment (Herold, 2018). The big part of institutional theory is an isomorphism, how companies with similar pressures will eventually adopt the same strategies (Herold, 2018). However, in the case of sustainability reporting, this effect does not influence the companies to the same extent as it does with other institutional pressures as the similarities can be mainly seen on the industry level (Herold, 2018). Additionally, a big influence on the institutional forces has the internal context, namely the attitude of the management and the approach towards the stakeholders' needs (Herremans & Nazari, 2016). As not all companies are motivated by the same values, thus have the same institutional logics and mindsets towards their stakeholders, the isomorphism of the institutional theory doesn’t spread equally among them as they use different management control techniques to initiate the change (Herremans & Nazari, 2016).

Based on these trends and phenomena’s the focus of this literature review will be presenting the most popular sustainability reporting frameworks and their reporting tools.

2.1 Sustainability frameworks

As mentioned above this section will outline the characteristics of the most popular sustainability frameworks as well as point out the similarities and differences of each reporting disclosure. Furthermore, it will choose the most accurate framework for this project.

2.1.1 CDP

Carbon Disclosure Project (CDP) is a non-profit organization that manages the sustainability disclosure system for companies, regions, cities, and investors ("Home - CDP", n.d.). Their

main focus is on informing the stakeholders about data on climate change, water, and carbon emissions (Aquila, 2018). They gather data by sending out the surveys to the Fortune 500 global companies and scoring them using their independent rating system to measure the “corporate and city progress” ("Home - CDP", n.d.). The data is submitted through an online response system and the companies to which it is sent out have to be requested by investors or customers ("How to disclose as a company - CDP", n.d.). However, it is not mandatory to fill out the survey nor are there any compulsory information companies should disclose in the questionnaire (Blanco, Caro & Corbett, 2017). This results in unthorough data with corporations not publishing the emission amount to avoid any potential scrutiny (Stanny, 2012).

2.1.2 SASB

Sustainability Accounting Standards Board (SASB) is an independent board that provides financially material indicators on environmental, social, and governance topics for 77 industries (Corporate Reporting Dialogue, 2019). By having a set list of industry-specific indicators reports made in accordance with SASB are comparable and measurable (Bloomberg & Schapiro, 2014). However, it is still dependent on the board of the company which topics are considered of material value to them (Bloomberg & Schapiro, 2014). To communicate the performance of companies on chosen issues the standards provide the businesses with accounting metrics and technical protocol on how to gather the data as well as activity metrics to allow for point of comparison (SASB, 2017). The biggest limitation of SASB is its focus on US-listed companies instead of a global approach as it follows the standards of the Securities and Exchange Commission, an American stock exchange (Vives, 2016).

2.1.3 GRI Sustainability Reporting Standards

Global Reporting Initiative (GRI) is a framework that is based on the notion of triple bottom line which means it takes into account the economic, social, and environmental angle. (Carlsson & Lindqvist, 2007). The key aspect of Global Reporting Initiative operations is transparency ("About GRI", n.d.). Their mission is to help the organizations realize their impact on critical sustainability issues at hand ("About GRI", n.d.). In 2006 Global Reporting Initiative started a strategic partnership with the UN’s Global Compact (Carlsson & Lindqvist, 2007). Such an alliance allows for more extensive accountability and framework transparency for companies with a commitment to Global Compact (Carlsson & Lindqvist, 2007). It also became

a link between businesses and governments for the achievement of 2030 Sustainable Developmental Goals ("GRI and the SDGs", n.d.). Out of all sustainable reporting frameworks, GRI's structure is the most inclusive of all stakeholders and aligning their interests (Corporate Reporting Dialogue, 2019). Furthermore, with its cross-company and cross-industry scope, it is the most comparable with Generally Accepted Accounting Principles (GAAP) for financial reporting (Arvidsson, 2018). It also is an internationally used and accepted tool for disclosing corporate social performance (Chen, Feldmann & Tang, 2015). However, GRI indicators have also some disadvantages. The main criticism comes from the duality in the aim it is trying to achieve as there is a mismatch between what GRI states and for what companies are using it for (Munoz, Zhao & Yang, 2017). GRI claims it is a reporting tool and as such it has a "grading" scale to evaluate the disclosures however companies use it as a performance assessment tool that influences the CSR within the company instead (Vigneau, Humphreys & Moon, 2014). Thus, companies focus more on satisfying the GRI as it provides the legitimacy companies seek instead of focusing on the actual stakeholders (Vigneau, Humphreys & Moon, 2014).

2.1.4 IIRC

The International Integrated Reporting Council (IIRC) is a global coalition that endorses the establishment of "integrated reporting and thinking within the mainstream business practice as the norm in the public and private sectors" ("The IIRC | Integrated Reporting", n.d.). They view sustainability reporting as an integral part of financial reporting (Arvidsson, 2018). Furthermore, their main goal is to encourage companies with capital to invest in businesses that are operated sustainably (Soyka, 2013). Thus, the main focus of the framework is value creation by addressing the business model and governance in its principles (Soyka, 2013). The coalition has been created by Accounting for Sustainability Project of the Prince of Wales Charities in alliance with the Global Reporting Initiative. That is why the framework uses GRI Guidelines to report on sustainability (Flower; 2015). It also uses materiality analysis as a part of the framework to disclose the material issues of value (The International Integrated Reporting Council, 2013). The similarities can be also seen in the approach as IIRC uses the principles-based method and there are no requirements on the format of the disclosure (Soyka, 2013). All of the examples mentioned above prove how intertwined the frameworks are. The study done by Flower (2015) mentions that IIRC's framework does not require firms to report influences they have on other entities that are outside of the company and that have

no effect on it which is one of the biggest downsides of the framework. What is more, it is a fairly new disclosure and it is not as well researched as some other models (Soyka, 2013).

As can be seen, all of the sustainability reporting frameworks have a lot in common with each other. In some ways the supplement one another however a lot of them have a very distinct purpose such as CDP being focused on carbon reporting or SABS listing only topics of economic value for each of the industries. They also look at reporting with a different lens as only IIRC considers the disclosure of sustainability as an integral part of the financial reporting to create cohesion in the strategy and value creation.

After describing the most popular disclosures it was determined that this paper will be using the Global Reporting Initiative framework and its materiality analysis for the gathering of data, analysis, and comparison purposes. As the most used yet still rounded disclosure, it will allow us to thoroughly check the similarities and differences of stakeholder views and identify the most important topics to them. What is more, the framework is targeted at western companies as the guidelines are shaped on feedback from partners mainly located in Europe and the United States (Vigneau, Humphreys & Moon, 2014). Lastly, it is the most researched framework and with its position on the market, it provides the most legitimacy at a low-cost which is what companies seek (Levy and Kaplan, 2007).

2.2 Derived methods

As described above GRI framework uses materiality analysis to determine the stakeholders' position on material issues. This section will describe how a materiality analysis should be conducted and how established opportunities should be dealt with.

2.2.1 Materiality analysis

The concept of material analysis comes from financial reporting. It has been adapted by sustainability reporting to help ensure that the company activities support the decisions that impact the society and environment and affect the stakeholders both in the present and in the future (Hahn & Kühnen, 2013). The study done by Font et al. (2016) recognized that materiality analysis allows for greater inclusion of stakeholder needs and the creation of shared value as it combines the issues with the highest potential to benefit both parties.

GRI defines material aspects as "*those that reflect the company's significant economic, environmental and social impacts or those which significantly influence stakeholders'*

assessments and decisions" (Calabrese, Costa, Ghiron, et al.,2019). The companies have to identify the key stakeholders and allow them to participate in the identification of the material aspects of sustainability (AccountAbility, 2018). The assessment process of the GRI material topics should be systematic, documented, and replicable (Calabrese, Costa, Ghiron, et al.,2019). However, it also recognizes it as a subjective process influenced by expectations, personal opinions, and experiences (Zhou, 2011). What is more, GRI allows companies a great deal of flexibility in choosing the issues that are of importance to them and their stakeholders (Landrum & Ohsowski, 2018). That is why it is important to include the stakeholders in the process of defining the issues to reflect the most accurate view on sustainability. A study was done by Calabrese, Costa, Ghiron, et al. (2019) that proposed a division of the materiality matrix into three zones: i) materiality zone, ii) emergent zone and iii) not materiality zone. The respondents and decision-makers should be assigned different weights when evaluating the adequacy and importance of the issues depending on their knowledge and pertinence in the decision process (Calabrese et al., 2019). All of the respondents answer questions both on a six-point Likert scale and rank the issues from the most important to the least (Calabrese et al., 2019). After that, a weighted average is calculated for decision-makers and stakeholders (Calabrese et al., 2019). In the conducted study by Calabrese et al. (2019) a materiality level is set at 3.5. The table below shows the zone ranges:

Table 1 Materiality zone matrix

Zone	Description	Importance to decision-makers	Importance to stakeholders
I	Materiality zone	3.5 ≤ IDM ≤ 6	3.5 ≤ ISTK ≤ 6
II	Emergent zone	3.5 ≤ IDM ≤ 6	1 ≤ ISTK < 3.5
		1 ≤ IDM < 3.5	3.5 ≤ ISTK ≤ 6
III	Not materiality zone	1 ≤ IDM < 3.5	1 ≤ ISTK < 3.5

Note. From "Materiality analysis in sustainability reporting: A tool for directing corporate sustainability towards emerging economic, environmental and social opportunities" by Calabrese et al., 2019, Journal of Technological and Economic Development of Economy, 25(5), p. 1027.

The study suggests a six-step process in which stakeholders are an integral part of the selection process and rating of the issues (Calabrese et al., 2019). The steps include the identification of stakeholders, selection, gathering, and selection of important issues,

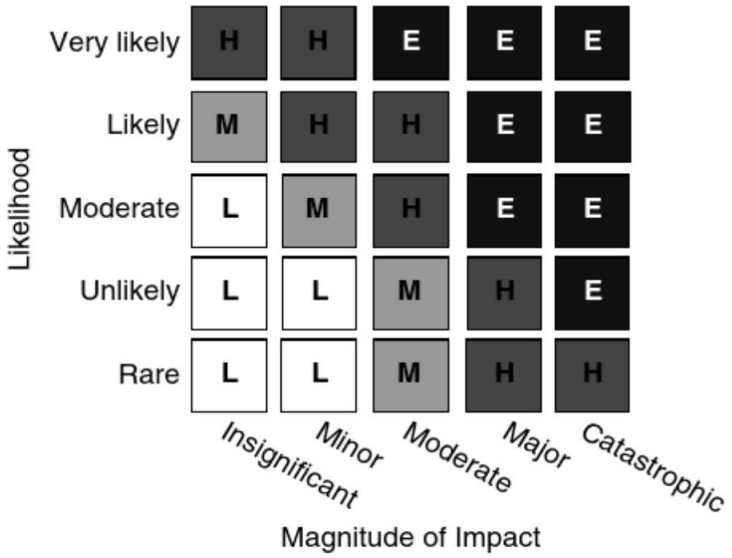
positioning and later prioritization of the aspects, and lastly, the implications material aspects have on the enterprise's strategy (Calabrese et al., 2019). Furthermore, they not only decide on how important they find the issues but also how adequate they are to the company (Calabrese et al., 2019). The data is later compared with the views of the decision-makers in the company to determine the priority of the material aspects as well as the risks and opportunities (Calabrese et al., 2019). However, there are many different ways to conduct the materiality analysis and the majority of companies do not disclose on how the process looks like in detail (Taneva & Stracchi, 2018; Beske, Haustein & Lorson, 2019; Morrós Ribera, n.d.) Thus, the maps can differ between companies making the analysis of them more complex.

2.2.2 Risk Management

As mentioned in the materiality analysis chapter the identified issues can be used to discover potential risks and opportunities for the business. Part of the risk assessment is risk analysis which is a "systematic use of available information to identify hazards and estimate the risk to individual's property and the environment" (Rausand, 2014). There are three steps to risk analysis (1) Hazard identification (2) Frequency analysis (3) Consequence analysis. The second half of the assessment is risk evaluation (Rausand, 2014). When adding actions that are aimed at reducing the risks, we talk about risk management (Rausand, 2014). There are three main reasons why it is important to manage risks: legal, economic, and technological (Wolke, 2017).

There are different legal regulations put in place both on a national and international level that regulate the different industries to ensure the course of the financial crises of 2008 will not repeat (Wolke, 2017). The economic reasons "lie in the increasing globalization of the financial markets" (Wolke, 2017). Lastly the shorter product life cycles and quicker spread of the information thanks to the Internet affect technological growth (Wolke, 2017). The risks can be divided between scientific such as earthquakes and business-related which are further divided between financial and performance risks (Wolke, 2017). The main tool for risk analysis is risk matrices (Landell, 2016). They display the probability, on one of the axes, and the impact on the other one (Landell, 2016). Graph 1 shows one of the most popular types of diagrams for business-related risks called a heat map (Anderson, 2014). It allows you to identify the most important risks (Anderson, 2014).

Graph 1 Risk management matrix



Note. From: "*Business risk management*" by Anderson E., 2014 Chichester: Wiley p. 6

In summary, the literature review described the most popular sustainability reporting frameworks. The one that will be used throughout the report will be the GRI standards with its tool materiality analysis to determine the relevant topics for the construction materials industry. Furthermore, it outlined the process in which the data should be collected when using the materiality map. It also pointed out how sustainable reporting differs from any other type of financial disclosing as the institutional pressures affect the spread of the practices less evenly which explains the differences between the industries.

3. Methodology

The section will describe the methodology of the report. First, it will describe the research paradigm, introduce the case as well as it will elaborate on the research design of the project. Subsequently, it will discuss the data collection and data analysis methods. The chapter will be concluded with the assessment of the reliability and validity of the research.

3.1 Research paradigm

The paradigm in which this research is set in is objectivism. Thus, it implies the ontological standpoint on reality to be external to one's beliefs and understanding ("Objectivism", n.d.). Furthermore, it will aim to apply an objective view when analyzing the collected data. However, in the course of data examination, some subjective heuristics had to be applied to allow for the analysis to move forward. The study has a deductive approach as the research question aims to see if the framework claims on being a comparable tool for stakeholders also applies across the non-country specific industry. However, it has been recognized that the collected data should have been supplemented with qualitative interviews that would provide a better understanding of the stakeholders' needs and views. Therefore, it would have also impacted the research design of the paper adding more context to the research. Unfortunately, due to the situation in Denmark caused by the pandemic of COVID-19 the scope and the research design had to be changed to take into account the lack of possibility to meet with people face to face as most companies moved their operations online or closed down for an unknown period.

Below I will further describe the methodological approaches of the study.

3.2 Case description & delimitations

This paper describes Cembrit, a medium-sized construction materials manufacturing company in Denmark. The company has operations in Denmark as well as the Nordics, Poland, Hungary, Czech, and eastern parts of Europe. However, the study will be focusing on the department in Denmark as it is the biggest market for the company. At the time of conducting the study, the company had no public sustainability strategy nor was using any sustainability framework to report in. Their main objective was to analyze the market and get a deeper understanding of the needs of its stakeholders. That is why the research focuses on identifying the material

topics that are of importance to the stakeholders in the construction materials industry by comparing the views gathered from the company with the information published in sustainability reports of other international construction materials manufacturing companies.

The main delimitation of the project was the situation in Denmark due to COVID-19. As a result, the case and the methodology had to be changed drastically to not include any qualitative methods of data collection. Thus, any structured interviews that were scheduled to occur to gather data about material topics among customers had to be canceled. Furthermore, the project relayed heavily on the company network and its responsiveness. As the stakeholders couldn't be approached in real life and company policy didn't allow for sending the survey directly to them the success of the questionnaire was dependent on the marketing team and their social media network. Due to the inaccessibility of a lot of key stakeholders the scope of the project was changed to rely more on available secondary data using sustainability reports created by Danish and international companies within the industry.

3.3 Research design

Based on the research question this study research design combines a cross-sectional model with a comparative case study. The data will be collected from participants that are stakeholders to Cembrit and use it to compare answers with international manufacturing companies disclosing the information on GRI standards to see if there are any similarities thus comparison possibilities across the industry.

The paper uses both primary and secondary data. The secondary research comes from journals, management reports, books, websites, and articles published between the years 2008 and 2020. The materials were obtained by using the AAU library as well as Google Scholar and Google search engine. The table below shows the article selection process (Table 2). The main research themes were predetermined however the strings changed to include different synonyms to find the most accurate sequence. The main search themes covered sustainable reporting, sustainability frameworks, risk management, and materiality analysis.

Table 2 The selection process of the literature review

Total hits	Number of total hits

First phase	Filtering the hits by subjects
Second phase	Looking through abstracts and conclusions
Third phase	Adding other relevant search words or synonyms
Fourth phase	Reading through the whole text

3.4 Data collection methods

This chapter will describe the data collection methods used in the project (graph 2). The primary data was collected in the form of a survey that has been distributed among companies' stakeholders and employees through LinkedIn, the company's social media, and internal web portal. It was also posted on Facebook groups for sustainability professionals and sent to two Danish union groups: Dansk Haandveark and Forbundet Arkitekter og Designere. Furthermore, NGOs that focus on the construction industry: Green Building Council and the State of Green have been contacted directly to obtain their perspective on the matter. The above-mentioned mediums were chosen as the target group were professionals within the field of sustainability and/or manufacturing.

Graph 2 Data collection methods

The material topics used for rating questions were chosen by combining the relevant material topics from the SASB materiality map for extractives & mineral processing industry, GRI topics, ESPAS 2030 megatrends, legislative issues, and human resources topics. The issues were collected under 6 broader themes: 1. Environmental 2. Social Capital 3. Human Capital 4. Business Model & Innovation 5. Leadership & Governance 6. End Product. When preparing a survey, a pilot test has been made to ensure that all relevant topics for the industry were

addressed as well as that the survey had an academic structure. Therefore, a consultation with the company liaison and the project supervisor was conducted.

The stakeholders were divided into six groups: customers (companies or home builders), employees, suppliers, NGOs, contractors (architects, consulting engineers, etc.), and installers. The survey was created in both English and Danish to allow for a wide number of people to answer. The questionnaire was fixed to run for a month and was reposted half way through that period on LinkedIn, internal web portal and company's Facebook. The GRI materiality analysis has been used as a tool to construct as well as later analyze the data. The survey consisted of 3 close-ended and 6 rating questions (Appendix 2). The rating questions had a 7-point scale with 1 being "*Very unimportant*" and 7 being "*Very important*" as well as there was a "*No opinion*" option. However, for the purpose of comparison with the reports the scale has been inverted to correspond with the ranking given in the materiality map assessment thus "*very important"* was ranked 1 and "*very unimportant"* was ranked 7.

The secondary data was collected from the analysis of sustainability reports created by construction materials companies. The disclosures were gathered from GRI's sustainability reporting database. The filters have been applied to the size of the companies (MNE and large), an industry they are in (construction materials), and the region (Europe). Furthermore, the companies that have been chosen for the analysis had to have a GRI standards analysis that is no older than from 2018. There have been 14 materiality maps used for the analysis.

3.5 Data analysis methods

As the materiality maps are composed of different issues and constructed differently, to analyze the reports the issues had been grouped into the same categories and corresponding subcategories (the material issues) as in the survey. However, if a topic has been repeating in the reports and has not been part of the survey it has also been included in the findings. There have been two types of materiality maps: ones where the issues were prioritized within the quadrants of importance and second where their issues were just grouped by importance together without recognizing the internal relevance. For the first type the ranking was assigned depending on the placement on the map, the higher the ranking the more to the top right corner the issues were. For the second type of map the issues that were recognized as the most important were receiving ranking 1, the issues of medium importance were ranked 2 and the least material topics were ranked number 3. To be able to compare the issues

between the maps the criteria of average ranking and number of occurrences have been used. The more often a topic has been reported on and the lower the average the more relevant it is. Based on the literature review on the materiality analysis, to be able to compare the results of the survey with the analysis of the reports a calculation has been made:

$$\frac{(A_s * A_r)}{N_r}$$

Where A_s is the average from the survey for the specific issue, A_r is an average from the reports for the specific issue and N_r is the number of times the specific issue has occurred in the reports. The lower the weighted average the more relevant the topic is.

However, the literature also mentions an adequacy calculation to determine which selected sustainability issues are actually valid for the specific materiality study (Calabrese et al., 2019). For the purpose of the conducted research, the adequacy calculation has been omitted as the company was not ready yet to involve the decision-makers in the analysis. Their interest laid more with the views of stakeholders and how others are doing the analysis rather than disclosing sensitive data to conduct the study.

Additionally, as the analysis has been done differently to what the literature is suggesting the materiality zones have been substituted with materiality ranges where all issues have some kind of materiality importance to the industry. The reason for the change was the analysis was conducted on reports that displayed only the topics that were material in some capacity to the company disclosing it. To materiality of the issues used following ranges for the weighted averages (Table 3):

Table 3 The materiality ranges

Description	Importance to stakeholders
High materiality	$0 < I_s \leq 2$
Medium materiality	$2 < I_s \leq 4$
Low materiality	$I_s > 4$

Where I_S stands for importance to stakeholders and the intervals show the ranges of the weighted average for the identified sustainability issues and allows for grouping them into relevant categories.

3.5.1 Company involvement

To get a better understanding of the company and the company's CSR profile I had a telephone meeting with the head of sustainability. However, the meeting had an informal capacity and contained confidential information thus the questions were open-ended and the interview has not been transcribed. During the course of the project, the company decided to not reveal any sensitive data. Furthermore, the board of directors and other decision-making figures were not informed yet about the company's interest to pursue the GRI reporting framework. Thus, I was unable to conduct any research from the point of the company and their values and was asked to conduct a more secondary data analysis changing the scope of the research.

3.6 Variability & reliability

When collecting data, it is important to assess the validity to define to what extent the survey measures what it is intended to measure (Carmines & Zeller, 1979). For the purpose of this paper primary data was collected only through the survey. The number of respondents was low and did not reflect the views from all stakeholder groups thus the conclusions reached in the paper might change as more stakeholders are reached. Furthermore, even though the company has operations around Europe, this paper was focusing on the Danish market hence the context of the research was Danish and the results can change once an international view is taken. What is more, the original survey was created in English and later translated by a third party that has no knowledge about materiality analysis. As an effect, the Danish rating scale does not reflect fully the rating scale created in the original questionnaire. Furthermore, the researcher could not check if the translation of the questions reflects the original context. Moreover, question 4 (How would you rate those following environmental topics?) should have one topic changed (high energy consumption) to (energy consumption) and the difference between energy efficiency and energy consumption should be explained. The last answer in question 3 (What is your relation to Cembrit?) should be changed into an open-ended answer instead of (None/I don't know Cembrit) as it doesn't allow for specifying what other relationship the respondents have.

What is more, the study done by Calabrese et al. (2019) suggests conducting an adequacy calculation for both stakeholders and decision-makers to identify if the chosen topics are of competence in describing the sustainability efforts of the company. However, due to the company being at the beginning of its journey in setting out the sustainability strategy and the decision-makers are not being involved yet in the efforts such analysis was not able to be conducted. Furthermore, the secondary data obtained for the analysis has been collected from public reports posted by the companies. The information published can be biased and not reflect a full sustainability landscape in the company. Additionally, as most of the reports were published in 2018 or 2019, they can be outdated as materiality analysis should be conducted every year to reflect the current state of the company. Lastly, the analyzed materiality maps were not constructed in the same way. Depending on the reports different amounts of topics were disclosed as well as not all of the issues were ranked within the quadrants.

To assess the extent to which the study is objective and can be repeated the reliability of each data collection method has been analyzed. Firstly, the researcher's biased was applied when analyzing the ranking of the issues as no clear quantitative number was provided which affects the reliability of the study. The reliability was also affected when collecting primary data as the respondents were part of a bigger network of company employees. What is more the head of sustainability contacted some of the respondents personally to ask for their opinion on the matter. The last event that had the biggest influence on the reliability of the study was the situation in the world caused by COVID-19. Had the study been conducted a month earlier the respondents might have had a different approach or there could have been a bigger response.

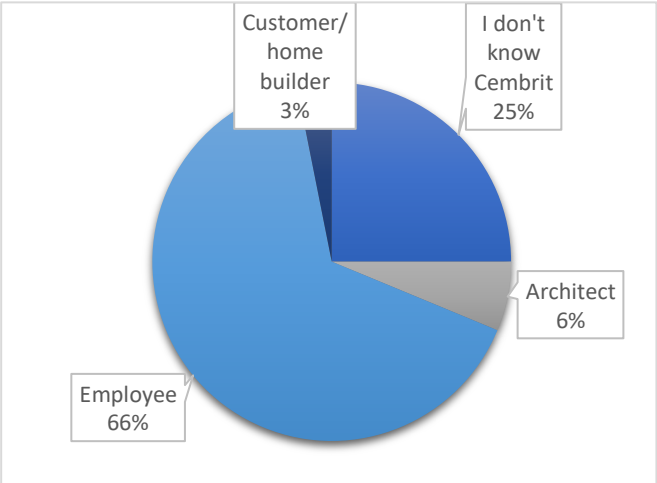
4. Findings

This section will focus on describing the findings gathered from a survey and analysis of construction materials company sustainability reports as well as analyzing the gathered data.

4.1 Results and interpretation of the survey

As mentioned in the methodology section the survey was conducted to gather the data on the stakeholders' views on material issues. 33 people answered with the main group being the employees. The second largest group did not know Cembrit however they did have some relationship to the sustainability sector as the respondents have been targeted based on their connection to the industry. Graph 3 shows the categories and distribution of the respondents. Most people were between ages of 45-54 years and male (Appendix 1)

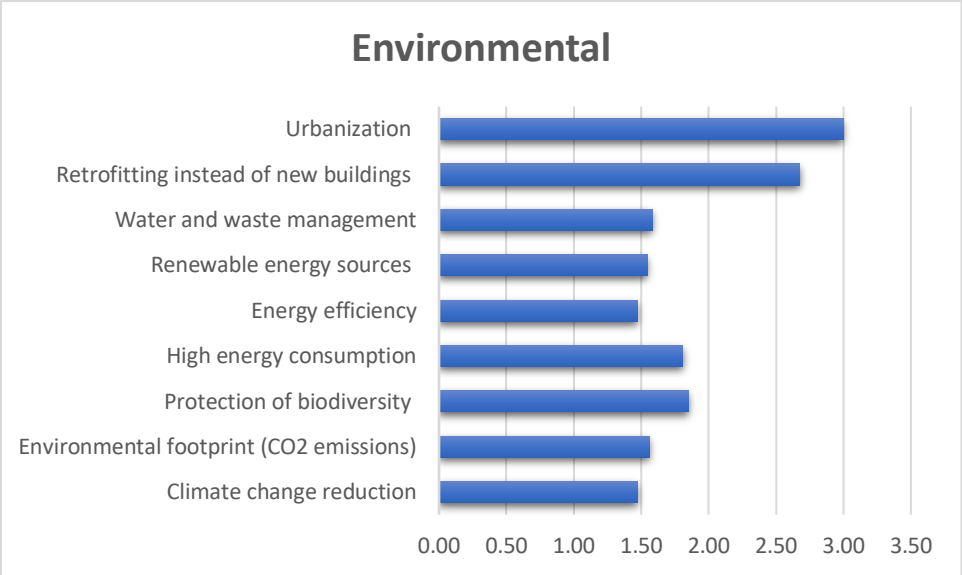
Graph 3 The stakeholder distribution in the survey



The rest of the questions concerned the materiality issues and were divided into six themes. The sections are environmental, social capital, human capital, business & innovation, leadership & governance, and end product. The results of the survey will be analyzed by going through the categories.

4.1.1 Environmental

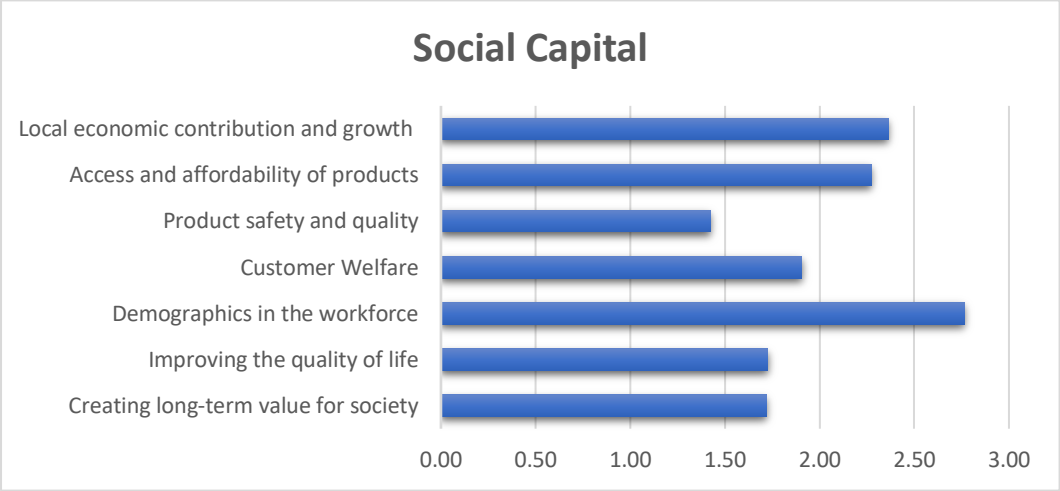
Graph 4 The topics with their average for Environmental category



Graph 4 portrays the average score for each environmental material issue. The issue that was found the most important to the stakeholders was *energy efficiency* and *climate change* with an average of 1.47. Most respondents rated those issues as *important* or *very important* to them. The other topics that had the mean around 1.5 were *renewable energy sources, water, and waste management,* and *environmental footprint.* The lowest rated category was *urbanization* with 3 points. Out of 33 respondents, five of them answered *no opinion* on that issue. Therefore, the lowest-rated issue was still perceived as somewhat important.

4.1.2 Social and Human Capital

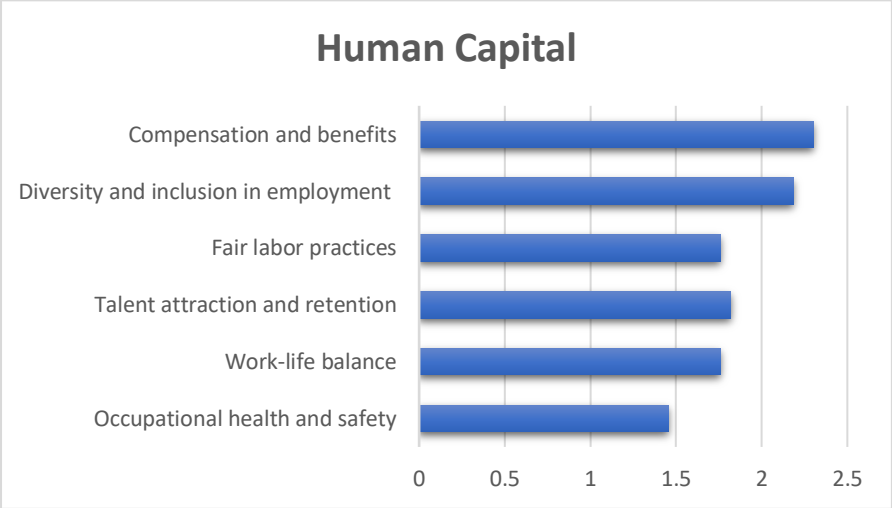
Graph 5 The topics with their average for Social Capital category



Graph 5 illustrates the most important material issue in the social capital category was *product safety and quality* with an average of 1.42 points out of 7. The second highest perceived topic was the *creation of long-term value for society.* The stakeholder found *demographics in the workforce* as the least important yet still *somewhat important* with an average of 2.77 points.

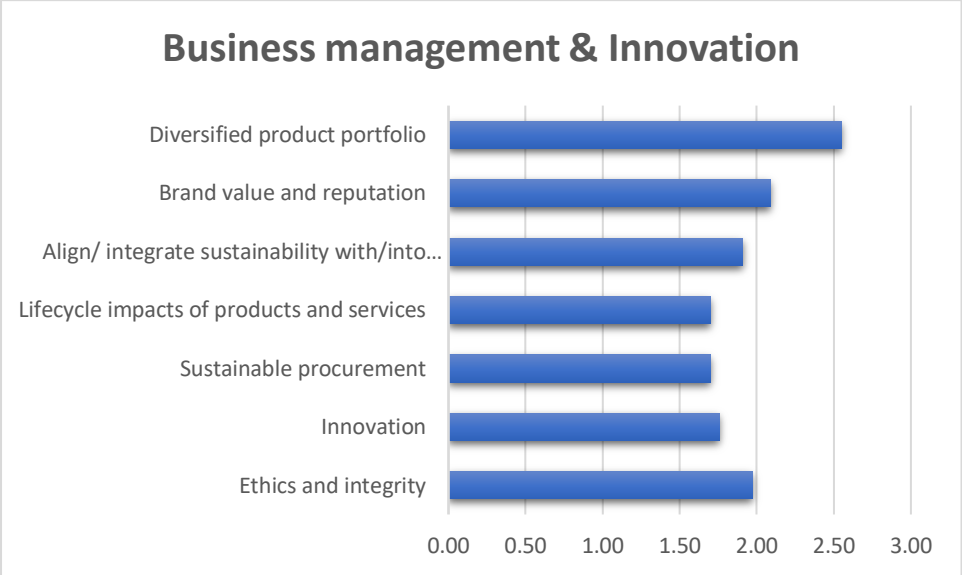
For the human capital, the most important topic was *occupational health and safety* with 1.45 points (Graph 6). The least relevant issue was *compensation and benefits*. Furthermore, two respondents have found that category, not at all applicable with answering no opinion on the question.

Graph 6 The topics with their average for Human Capital category



4.1.3 Business management & innovation

Graph 7 The topics with their average for Business management & Innovation category



Graph 7 shows the results of the business management and innovation category. The *lifecycle impacts of products and services* and *sustainable procurement* scored the same average of 1.70 points. The lowest marked topic was the *diversified product portfolio*. The issue had 2 respondents answering no opinion and the answers ranged between *very unimportant* to *very important*.

4.1.4 Leadership & Governance

Graph 8 The topics with their average for Leadership & Governance category

Graph 8 shows the issues concerning leadership and governance. The topic that was by far the most important is the *responsible leadership and governance*. It had on average 1.67 points. The other issues were graded mainly not lower than 3- somewhat important giving all of the topics an average of around 2 points.

The end product category had 3 issues that were rated highly with an average around 1.8 however the issue that was found the most relevant from this category was *indoor air quality*. The lowest marked topic was smart buildings with an overall lowest mean of 3.09 (Appendix 1).

In summary, the highest rated material topics for the stakeholders were *product safety, indoor air quality, occupational health and safety*, *climate change,* and *energy efficiency* with a mean higher than 1.4 points. The lowest rated topics were *smart buildings* and *urbanization* with a lot of respondents either giving it low scores or not having opinion thus not seeing it materiality for the construction materials industry. As can be seen throughout the graphs the issues within the groups had mostly similar averages. Even though an adequacy analysis was not conducted it could be suspected that the listed topics in the majority were found relevant to the industry as there were not as big discrepancies between the views on the topics.

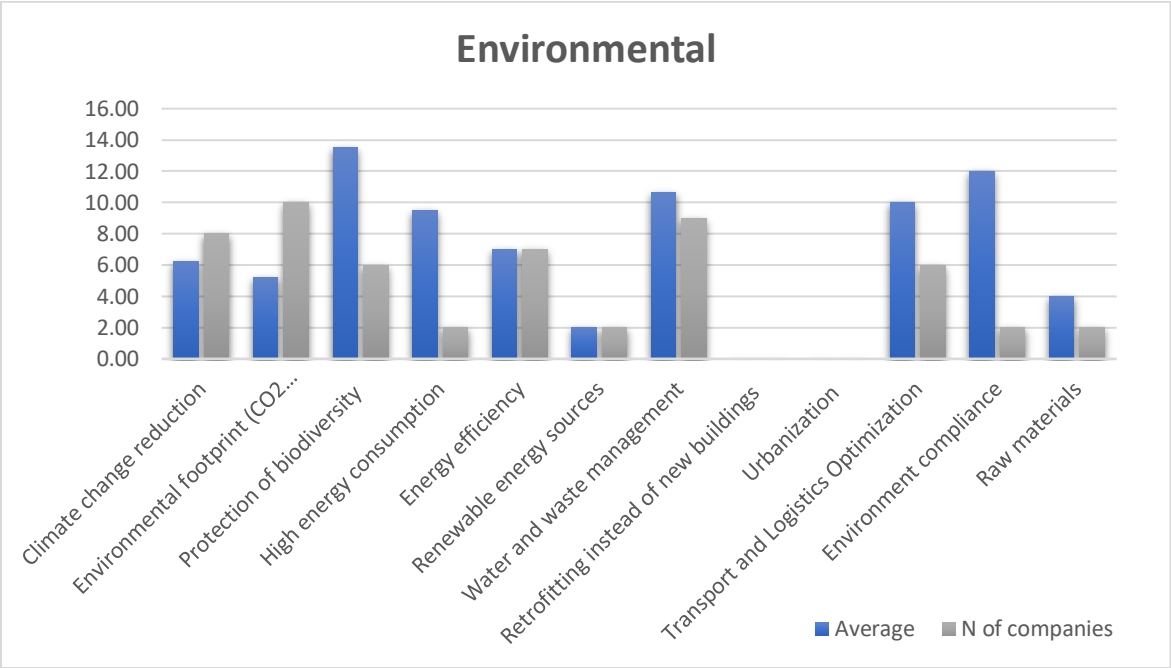
4.2 Results of secondary data analysis

This section will describe the findings from the analysis of sustainability reports of international construction materials.

4.2.1 Sustainability reports

When analyzing the materiality analysis for different construction materials the issues were grouped in the same categories as in the questionnaire. The categories not always corresponded with the themes assigned by the materiality maps.

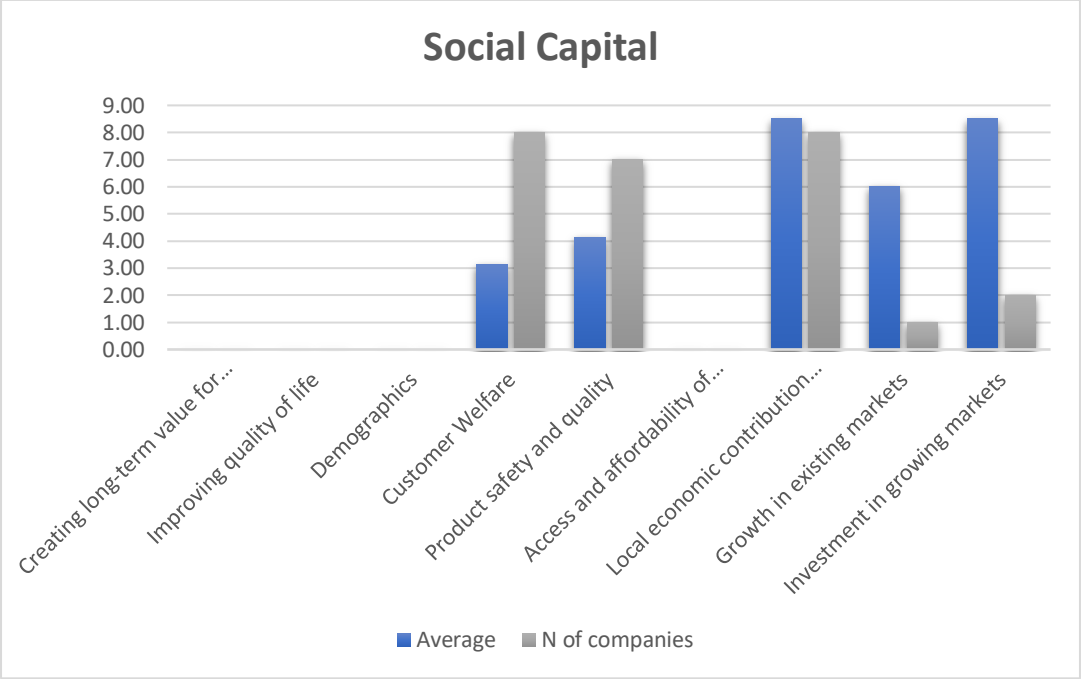
Graph 9 The topics with their average and frequency of occurrence for Environmental category



Graph 9 shows the average rating of the materiality issues as well as how often they occurred in the reports. As can be seen, the lowest average yet an issue that had occurred the most times in the reports for the environmental category has been the *environmental footprint*. 10 out of 14 companies mentioned that topic and in 6 of the reports, it has been ranked between first and fourth place. The second topic that has been found very important has been *climate change*. Six companies mentioned it in their reports and it had an average of 6.25. One of the topics that had been reported on a lot yet it has not been the part of the original category is

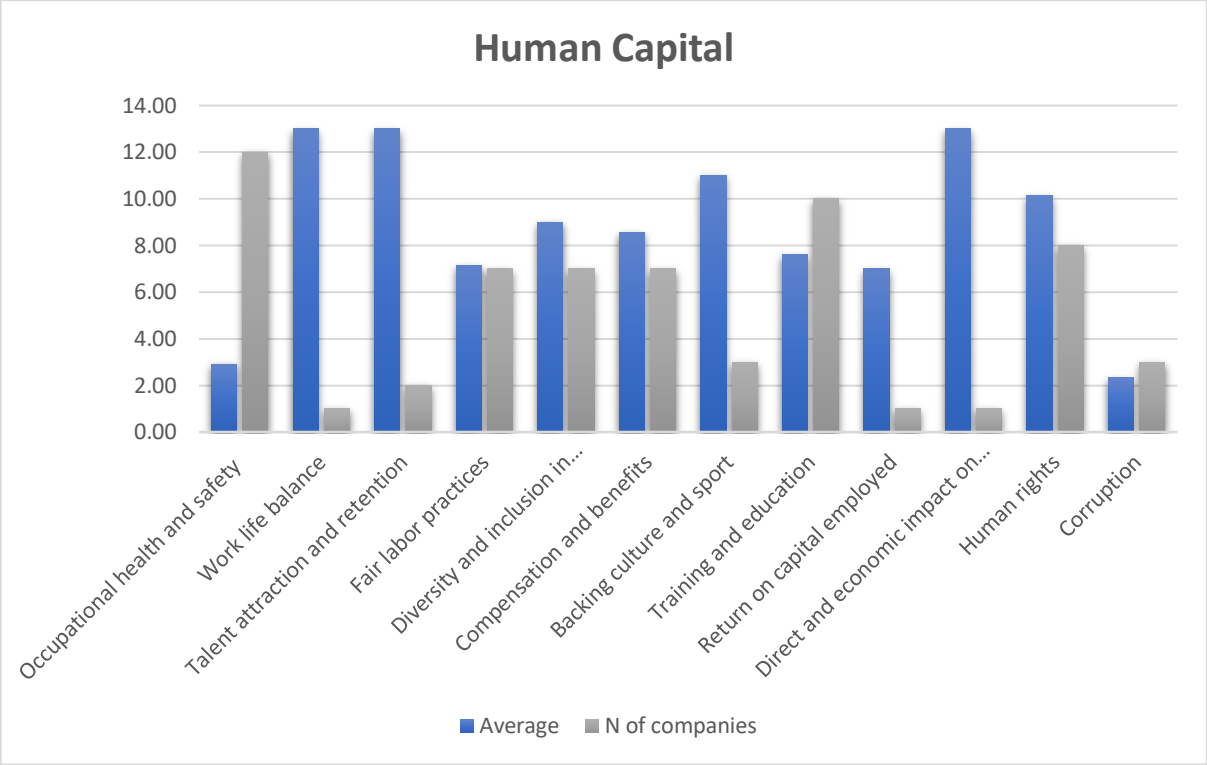
transport and logistics. Six companies decided to report on its materiality and it has been usually ranked as medium importance.

Graph 10 The topics with their average and frequency of occurrence for Social Capital category



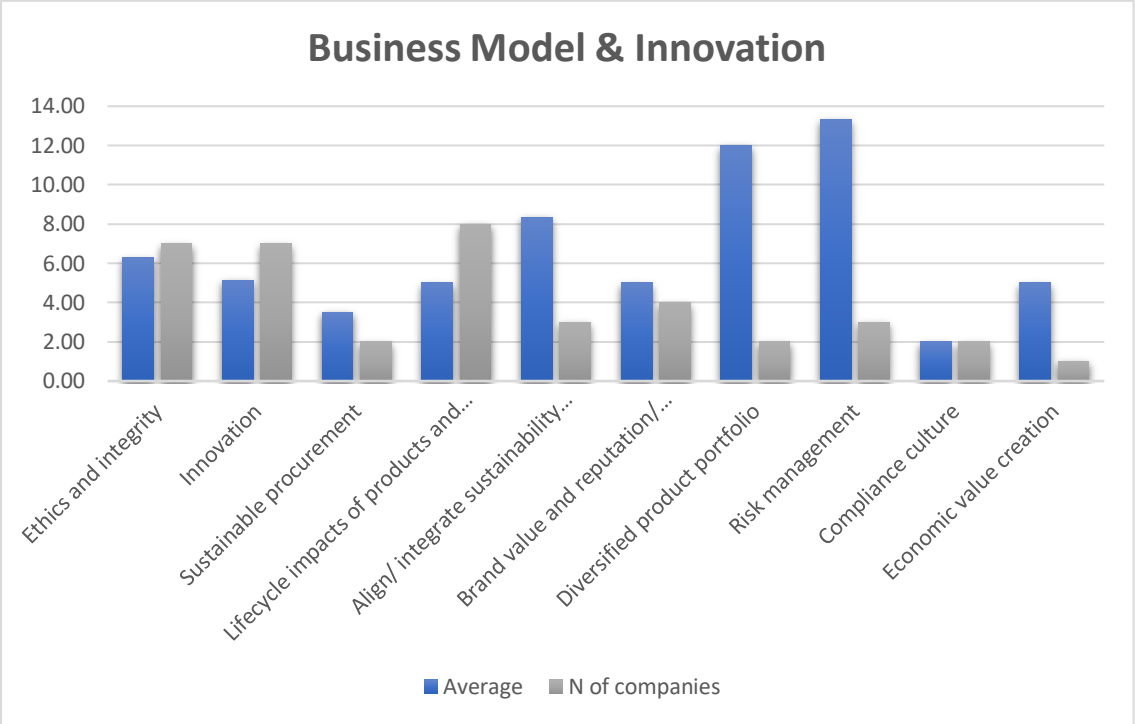
The topic found most important in social capital is *customer welfare* (graph 10). The majority of reports placed the issue in the most material category, in first or second place. The second issue that was mentioned by many reports was the *product safety and quality*. *The creation of long-term value, as well as access and affordability of the products,* were not mentioned by any of the reports.

Graph 11 The topics with their average and frequency of occurrence for the Human Capital category



For the human capital category, the *occupational health and safety* was by far the most mentioned topic in all of the reports (graph 11). 12 out of 14 companies reported on its materiality. The second most mentioned topic was *training and education*. It has also been a topic that has not been included in the original list of material topics. 10 companies found it relevant however it was usually more important to the company than to their stakeholders.

Graph 12 The topics with their average and frequency of occurrence for Business Model and Innovation category

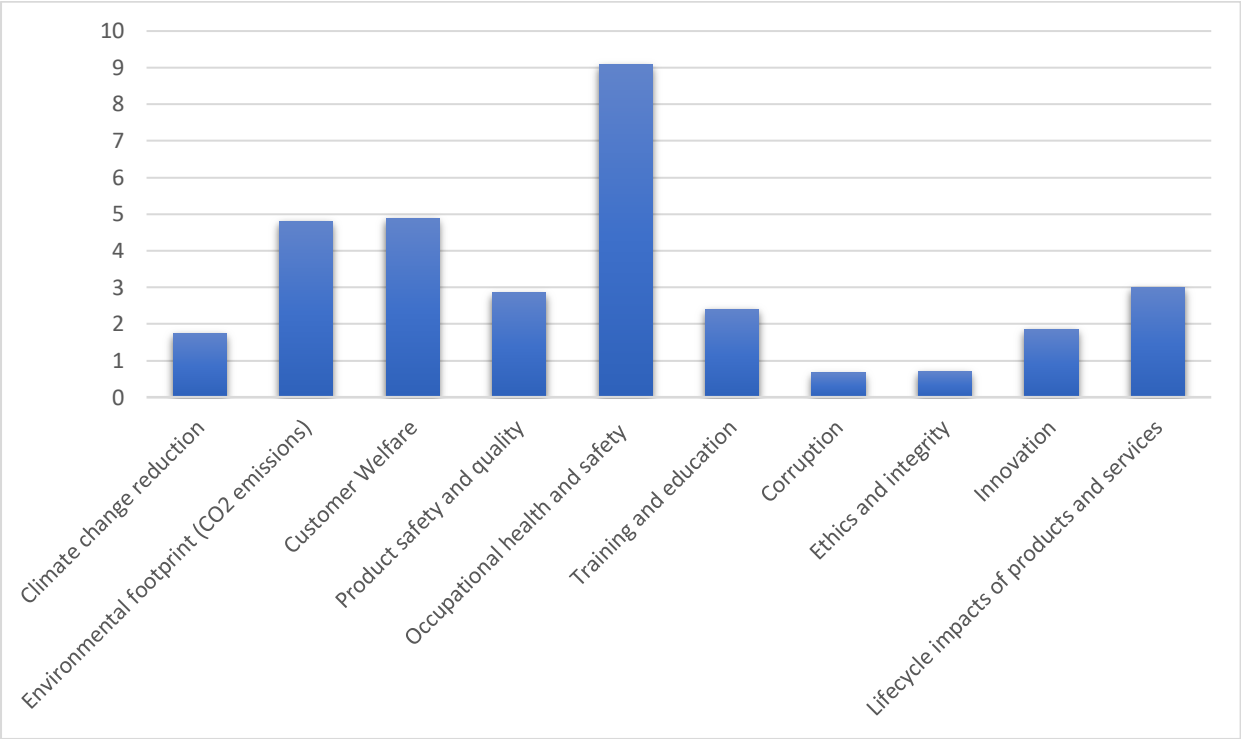


The most mentioned issue from the business model and innovation category was *the lifecycle impacts of the product* (Graph 12). The close second has been the *innovation* however both of the issues on the general scale have been found of medium materiality to the companies.

Out of leadership & governance category, the highest rated was the *supply chain management.* However, all in all of the topics although mentioned in some of the reports were not rated as the most essential material topics. The identified end product category issues were not mentioned in any of the reports.

Graph 13 presents the issues that were the most important and were mentioned in most reports were. As it can be seen *occupational health and safety, customer welfare,* and *CO2 emissions* have the highest importance to the companies. The other topics that were reported frequently were the *lifecycle of products, product safety, and quality,* and *training and education* (graph 13). The importance has been calculated basing on the frequency the issues had been mentioned and their ranking. The topics with the positive difference were considered the most relevant.

Graph 13 The topics with the highest importance in the report



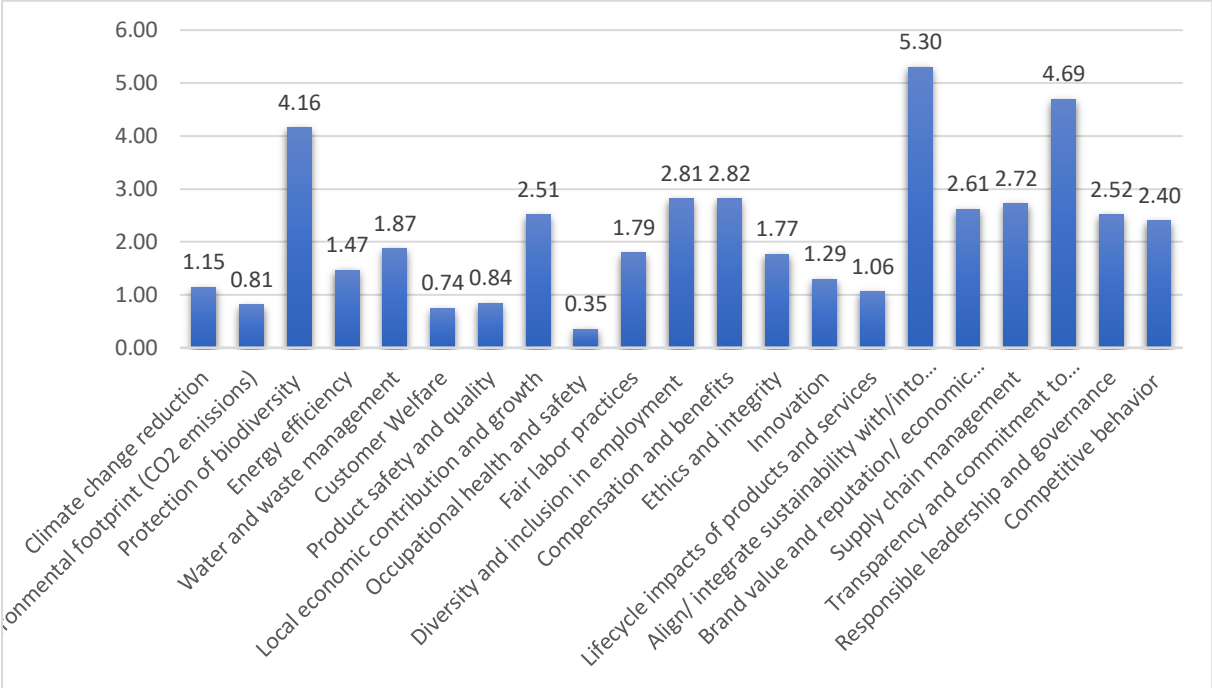
In conclusion, the findings were divided between the discoveries made through the survey and by reading the materiality maps of international construction materials companies. Out of the surveys, the top three topics were *product safety and quality, indoor air quality,* and *occupational health and safety*. The reports highlighted *occupational health and safety, customer welfare, and environmental footprint* as the most important for the sector. As can be seen, only the occupational health and safety has been identified as the most important for both data sources.

5. Analysis

This section will focus on analyzing and combining the findings from the survey and materiality map analysis to determine the most material issues for the sector.

When combining the results of the survey and the analysis of the reports of the companies it could be determined which material issues are of importance to the stakeholders. The figure below shows a weighted average of the topics (graph 14).

Graph 14 Average means of topics listed in the survey



The topics from above were collected into their corresponding material relevance groups based on their weighted average. Table 3 in the Methods section describes the intervals that determine the grouping of the issues. The literature review talks about grouping them into three categories depending on a zone however as the adequacy analysis was not conducted a different approach was taken. The issues were still grouped into three categories however all of them had some material value. This was also the preferred way for a lot of the analyzed reports. The topics are listed in order of their relevance in the graph below (Graph 15).

Graph 15 The division of topics based on their materiality level

High materiality	Medium materiality	Low materiality
• Occupational health and safety • Customer welfare • Environmental footprint • Product safety and quality • Lifecycle impacts of products • Climate change reduction • Innovation • Energy efficiency • Ethics and integrity • Fair labour practices • Water and waste management	• Competitive behaviour • Local economic contribution and growth • Responsible leadership and governance • Brand value and reputation • Supply chain management • Diversity and inclusion in employment • Compensation and benefits	• Protection of biodiveristy • Transparency and commitment to stakeholders • Align sustainability into corporate strategy

The lowest, thus the most important for the construction materials industry is *occupational health and safety*. It has stood out both in the survey and the analysis of the reports with almost all companies reporting on that issue. The data corresponds with the research done by United Nations as they dedicated two sustainable developmental goals to that issue, goal 3 (good health and being) and goal 8 (decent work and economic growth) ("Sustainable Development Goals .:. Sustainable Development Knowledge Platform", n.d.). Furthermore, the International Labour Office (ILO) mentioned the financial and non-financial effects a poor work environment can have on the employees as well as on the company (International Labour Office, 2019). The research also supports the importance of the *fair labour practices* companies should obey. The term stands for regulated employment with clear rules on minimum wage, overtime pay, and record-keeping rules to prevent the employer from abusing the employee (Scott, n.d.). Therefore, for the employer to show they are following the rules and are an employee-friendly institution, they decide to report on the issue.

The second highest-rated topic was the *customer welfare* understood as the satisfaction and relations with the customers. As mentioned by different marketing publications and in the corporate reports, having an open dialogue with the customers allows them to understand

their needs and receive their feedback (Khosrow-Pour, 2018). Customer satisfaction is correlated with sustainability efforts as current trends support environmentally responsible companies (Martian, 2015). Customers trust and select companies with a well-established sustainability strategy (Martian, 2015). Therefore, it is beneficial for enterprises to monitor their customer welfare. A topic that was also found important and is closely related to customer welfare is *product safety and quality*. Quality is one of the most important characteristics of a product that allows it to retain the customers (Jezerc, 2018). As such it is also of interest for the companies to disclose the information that will support their claims and satisfy the clients.

The last material topic from the top three has been the *environmental footprint*, disclosed by many companies as their CO2 or greenhouse gas (GHG) emissions. The GHG emissions and their impact on the environment have been a topic of discussion back in 1992 during the UN's Earth Summit in Rio de Janeiro. The states had signed a treaty called the United Nations Framework Convention in Climate Change which goal was to "stabilize the greenhouse gas in the environment" (*United Nations Framework Convention on Climate Change*, 1992). The more recent actions taken against the emissions of CO2 into the environment were taken up during the Paris Agreement when the states agreed to each creates a plan on how to lower the emissions on which progress, they will be regularly reporting on ("Paris agreement: essential elements", 2016). Due to the regulations that have been put in place for a company to seem environmentally friendly, it is a must to disclose its CO2 footprint.

Another topic of material value is the *lifecycle impacts of products*. The lifecycle assessment of a product is a "*holistic, cradle to grave environmental approach which provides a comprehensive view of the environmental aspects of a product or process throughout its life cycle.*" (Curran, 2015). It allows us to notice the necessary tradeoffs between the product and the environment (Curran, 2015). The construction industry, with the construction materials sector that supplies it, is considered one of the biggest pollutants and natural resource exploiters (Snook, 2017). As the world is fighting to keep the planet's temperature rise below 2 degrees and the biggest culprit is emissions of toxic gases, it is crucial for the sectors that have the biggest impact to do what they can to limit their effect.

The life cycle assessment can be also used to identify all the steps that could help with introducing the circular economy into the design process allowing for the raw materials to be

used to their fullest, extending the life of the products in the process. Certifications like DGNB put a lot of focus on the lifecycle of the construction materials used for the buildings. It is one of the determinants for assessing the quality and sustainability of the construction. As there is a growing trend among the building sector to certify their constructions, sustainable building materials can be in high demand (Green Building Council, 2016). To gain a bigger market share in the sustainable construction market companies see value in addressing the lifecycle of their products and strategies on how to extend them.

Innovation was also found as an issue of very high materiality. It is an important topic as it gives the companies an advantage over their competitors (Henderson, 2017). Companies might also want to report on it as it shows the type of internal culture of the business. The higher innovation is placed the more likely it is that the business encourages creativity, is not afraid to take risks, fosters dialogue and will grow faster than their competitors (Henderson, 2017).

Another issue that was considered of high materiality was *ethics and integrity*. Sustainability and business ethics are terms very closely related as being sustainable is an ethical behavior (Lashley, 2016). Furthermore, ethics are defined as doing something good and legal but without the legal obligation (Lashley, 2016). That definition fits perfectly into the voluntary non-financial disclosing that companies use to report on their sustainability. Furthermore, the disclosure of business ethics allows for assessing the relationships between the company and the community in which it operates, a key information to potential investors when looking at public policy commitments (Ford, Davies & El-Ayouty, 2000).

The last topic from the materiality category is *waste and water management*. The issue could be divided into two separate topics however they are closely related thus were analyzed as one in the materiality analysis. The waste can be divided into two categories residential waste and commercial waste. The commercial waste is produced by commercial companies such as construction businesses and it surpasses the residential waste ("Just How Important is Construction Waste Management in Contemporary Times?", n.d.). Waste has a massive impact on the environment with the third of the trash being not recycled and sold to the landfills ("The Importance of Waste Management During A Commercial Construction Project", 2019). There the waste is stored, and bacteria decompose it producing large amounts of gasses that affect global warming (Ashford, 2010). The waste management covers the

elimination, minimization, and reuse of the materials when feasible (Napier, 2016). It is important to focus on the reuse and minimization of waste as the costs and effects of landfills on the environment are enormous (Napier, 2016). As for companies the perception and reputation are key, disclosing how they manage the waste produced by their operations is crucial. Water management is also essential in the manufacturing industry such as construction materials. In manufacturing the water is being used at many stages of the operations. Clean water is being extracted, yet contaminated water is being returned (Kaczala, n.d.). Without a well-developed treatment plan on how to cleanse the wastewater and dispose of it so it doesn't contaminate the freshwater resources or managing it so it can be reused in the future we can experience water scarcity in a very near future (Kaczala, n.d.). That is why so many companies decide to disclose their strategies on waste management and water management thus making the issues material.

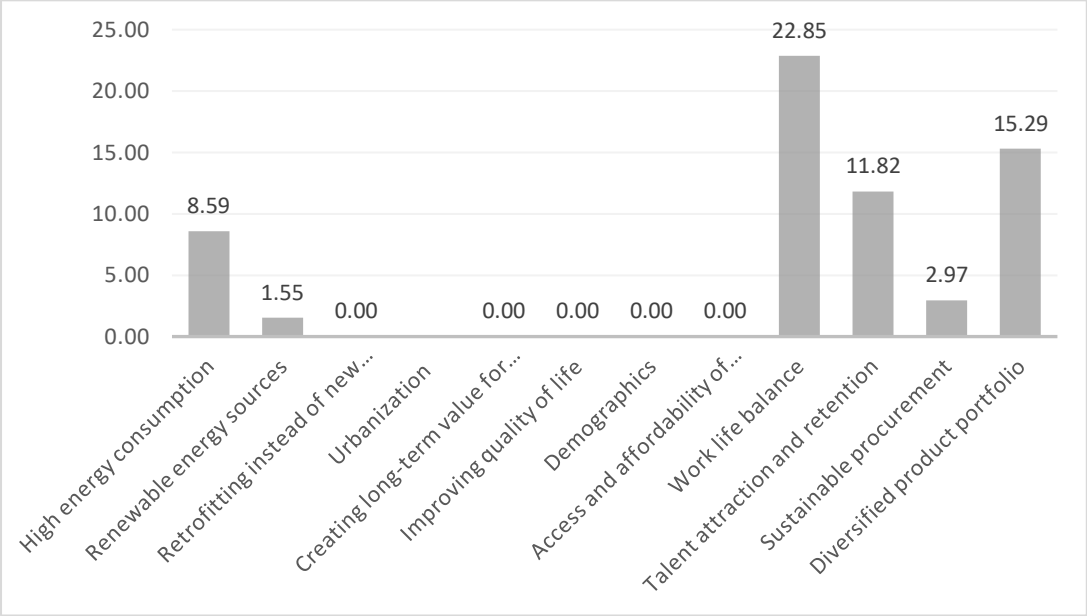
In conclusion, all the materials that were found in the high materiality category are supported by the data. Furthermore, they are very interconnected with the main topics being environment and social importance that binds them together.

5.1 Delimitations of the analysis

To make ensure the validity of the analysis some of the topics that had appeared in the reports less than four times had been classified as not relevant as there is not enough information to determine their actual importance (graph 16). There have also been some of the topics that have not been found in the reports thus they have an overall mean of 0. One of the issues that have not been found as important yet have a big sustainability concern, is *urbanization* (GlobalScan & SustainAbility, 2019). Neither the respondents nor the reporting companies in the industry gave the issue much importance as it has been overall one of the lowest-rated topics in the survey and none of the analyzed companies included it in their report. However, when looking at the trends and top concerns of the sustainability, urbanization is named as one of the key problems as more than 50% of the population is already living in the cities (Kirabo Kacyira, n.d.). The growing urbanized areas affect the nature and risk of major natural disasters that can affect the residents (Kirabo Kacyira, n.d.). However, it also is understandable why construction materials companies do not find that issue material. They do not have a lot of influence over the planning or construction of the buildings however they do supply the

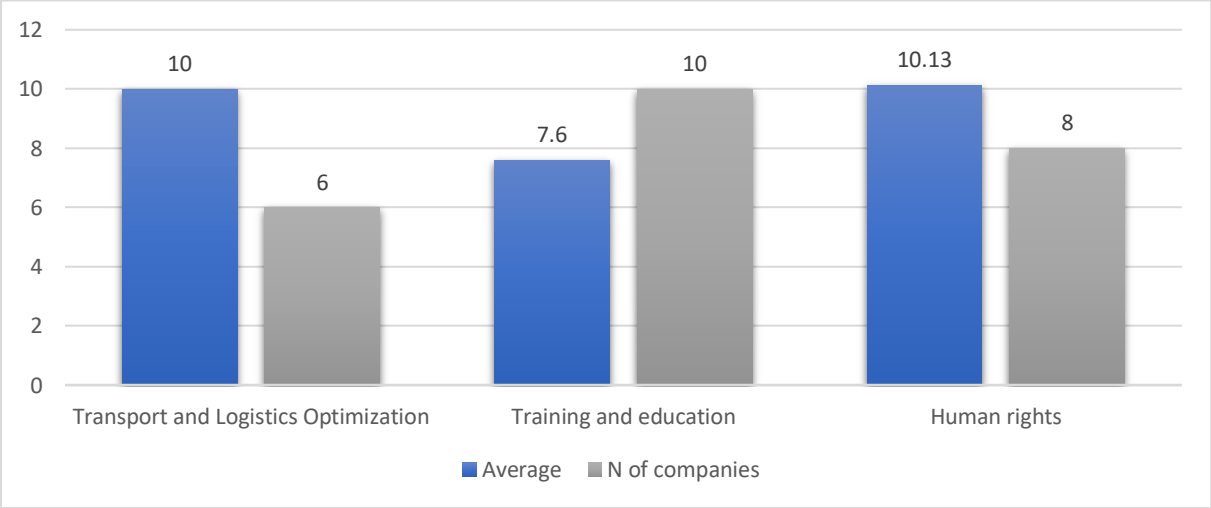
industry thus should use their stakeholder position to put pressure on the construction companies.

Graph 16 The non-material issues- categories from the survey



Lastly, there have been topics that had reoccurred in the reports yet they were not part of the survey (graph 17). As some of them had been mentioned in more than five reports, they clearly have big value to the construction materials companies. However, as they couldn't be compared with the opinions of stakeholders of the case company adding them to the material list would obstruct the objective approach this project has and its validity.

Graph 17 The material issues not included in the survey



Training and education have proven to be an important issue for companies to invest in. It creates a more productive workforce with fewer absentees and a lower turnover rate (Williams, 2016). It also improves the customer service and the business reputation as it allows the companies to rely more on recommended staff rather than costly recruitment processes (Williams, 2016). That is why 10 companies found it relevant to disclose its materiality (Graph 17).

The second most reported on yet not included in the survey topic was *human rights.* According to UN human rights are all the rights one has such as the right to life and liberty, freedom of opinion, or right to work that are inherent to humans despite their gender, ethnicity, or nationality ("Human Rights", n.d.). Thus, a lot of companies disclose all of the information on the demographics, ethnicity, or gender of their employees under the umbrella term *human rights*. Under that information, there are also included descriptions of the work environment or *occupational health and safety* which has been recognized as the most important material issue in the study (Graph 14). However, as some companies recognized the two terms separately, they couldn't be combined into one issue to protect the validity of the project.

The last topic that has been highly recognized by construction materials companies is *transport and logistics*. It is a relatively important topic as the movement of goods amounts to 30% of freight transport is the cities that are the main concentration of pollutant gasses (Guerlain, Renault & Ferrero, 2019). As such the issue concurs the materiality of the environmental *footprint* topic. Out of six companies that disclosed this topic, all of them were also informing the stakeholders about their *environmental footprint*.

6. Discussion

The paper set out to discover how a company can identify the most relevant sustainability issues for their industry. The literature review showed how complex the sustainability reporting landscape is with a number of frameworks that are very similar to each other. One of the things that some of them have in common is the use of materiality analysis to obtain the stakeholder view on the matter. However, for the materiality analysis to highlight the relevant topics, a close relationship between the company and its stakeholders has to be established. Furthermore, the main reason companies decide to start reporting are the outside pressures, and their goal of achieving legitimacy. As the most established sustainability reporting framework is GRI, this project used its definition of materiality to conduct the analysis. The case company comes from the construction materials industry thus that is the industry focus for the report. After collecting the data through the survey and company reports of other businesses that are part of the industry, few clear issues came to the forefront. This discussion will be focusing on the reasons why companies don't report, future of reporting, the repercussions company can face when not being truthful and transparent in their reports and why risk management is an important activity to do.

6.1 Why companies don't report?

As mentioned at the beginning of the report, the companies need to publish sustainability reports. However, it is also vital for the disclosed information to be truthful and showcase the activities of the company. Even though, the notion and institutional pressures of the public are usually enough to convince the businesses to disclose their ESG impacts there are still some companies that choose to not report. However, even the companies that don't produce the reports, still engage in communication with their stakeholders and state their "commitment to sustainability" in one way or another (Stubbs, Higgins & Milne, 2012). One of the reasons why businesses choose to not report is the lack of perceived benefits that can come with disclosing their sustainability (Stubbs, Higgins & Milne, 2012). They don't see how it can be a source of competitive advantage (Stubbs, Higgins & Milne, 2012). Furthermore, they point out the costs that come with producing such reports and how too much information can cause more risks with stakeholders asking questions that companies would rather not answer, as a reason to not report (Stubbs, Higgins & Milne, 2012). Lastly, as sustainable

reporting is mandatory only for companies of a certain size, others who are not legally bound to disclose may choose to not follow their bigger competitors as the non-binding reports can be perceived as of no value (Stubbs, Higgins & Milne, 2012).

6.2 The future of reporting

However, looking at the statistics presented earlier by KPMG it is clear that more companies see value in sustainable reporting. Every two years, when the study has been conducted, a number of companies disclosing had risen. What is more with time the landscape of the nonfinancial disclosures grew as well, with new players coming to the forefront. Furthermore, it can also be expected that in the future the frameworks will continue to evolve being shaped by the current trends and needs of the market. In October of 2019 Sustainalize and KBC Group held a conference during which they discussed the future of sustainability reporting. They had speakers representing different stakeholders in the matter that offered insight into the key issues that need to change (Gronheid, 2019). One of the big discussion points was that the problem lies with too many non-financial reporting frameworks that are available to the companies that affect the comparability aspect the disclosures promote (Gronheid, 2019). Furthermore, the quality of the reports affects the information disclosed as according to the Alliance for Corporate Transparency not even half of the reporting companies disclose how and for what their policies are created (Alliance for Corporate Transparency Project, 2018).

Without that information, it is difficult to distinguish meaningful information from the unnecessary one (Gronheid, 2019). What is more, the future reporting should be targeted to the industry needs to better reflect the effects the relevant issues have on the strategy (Gronheid, 2019). To solve that issue a more standardized approach should be designed with a framework that is supported and led by a governmental body such as the European Union (Gronheid, 2019). What is more, the current mandatory reporting applies to large companies only, which allows for small and medium enterprises to avoid facing their environmental and social impacts (Gronheid, 2019). Thus, as time progresses it can be expected that SME's in the future will have to report their ESG impact the same way as large corporations do (Gronheid, 2019). Lastly as of now the sustainability reports are mostly separate from the financial reports made by the companies. However, in order to use the results of materiality analysis and to actively employ the sustainability activities into the strategy of the business, the reports will

have to be integrated into the financial disclosures to leverage the opportunities that arise from conducted research (de Nuccio, 2020).

6.3 The importance of management for CSR transparency

The most recent, biggest scandal concerning sustainability occurred in 2015 after Volkswagen has been found lying about their emission levels for the diesel engine cars. The issue came to the forefront after the new law has been passed in America to measure the levels of emissions while conducting a road test instead of relying only on the laboratory only emissions tests (Jung & “Alison” Park, 2016). The company deliberately lied and promoted their cars as eco-friendly to achieve an advantage over its competitors (Dans, 2015),

The main reason due to which Volkswagen could have lied for so long without any whistleblowers coming out with the story was that the company’s management had a reputation for fostering an unhealthy and hostile environment with no outside opinions or views due to a very centralized management style (Jung & “Alison” Park, 2016). Furthermore, the supervisory board could not acknowledge any negative feedback on any of the projects which led to the company lying to fulfill the expectations of the CEO (Jung & “Alison” Park, 2016). Additionally, Volkswagen's focus was on growth and sales without putting any attention on sustainability or accountability due to a hostile approach towards environmental regulations (Jung & “Alison” Park, 2016). Even though the company was reporting its sustainability thoroughly in Europe, using the GRI framework, they did not use the same standards for the American subsidy ("SDD - GRI Database", n.d.). As the American market is less favorable to the diesel engine, and the regulations on emission levels were much stricter the company had to find some other way to convince the customers to buy their cars (Jung & “Alison” Park, 2016).

The aftermath of the scandal had affected the company very severely. Not only they had to pay money for damages, but their stock prices also plummeted and the demand for the cars dropped by 10%. Their credibility and image among the customers had changed drastically and it will take years for the company to regain the trust of the buyers. However, there have been some positive changes as well as the company started reporting their environmental footprint more transparently for a whole group and set up a sustainability strategy to become carbon neutral by 2050. The example of Volkswagen shows how major corporations without any governmental supervision will choose profit over being environmentally responsible.

Furthermore, the case presents the importance of management in the process of transparency and fostering openness as Volkswagens' biggest problem was the pressures that came from inside to keep any issues in the house and to not ask for any help from the outside in the fear of losing the market advantage.

6.4 The importance of risk management

As mentioned in the literature the materiality analysis can highlight the risks and opportunities for the company. However, the material issues do not determine the impacts on the stakeholders, only on the business (Taylor, 2019). Therefore, they also don't address the likelihood of their occurrence (Taylor, 2019). However, a correlation has been found that the companies that have a well-developed enterprise risk management framework (ERM) are far better at dealing with sustainability issues (Taylor, 2019). Interestingly on the list of global risks the first items are of environmental category as the effects, it bares influence a broader scale of stakeholders (Taylor, 2019). As mentioned in the literature review, risk management is a tool that helps with evaluation as well as mitigation of arising risks. When analyzing the data only three companies were addressing their risk management strategies in their reports. A study done by WBCSD (2016) confirms that the companies in the construction industry do not align their sustainability disclosures with risk filings. Nonetheless, to use the opportunities to their full extent it is vital to consider risks and costs that can come from pursuing them (WBCSD, 2016). A well designed ERM strategy can allow to monitor and filter out any opportunities that are too risky (WBCSD, 2016). It is also a communication tool between the stakeholders and the company (WBCSD, 2016).

Not all companies see the value in using the risk management tools in their reports. As it was noticed when analyzing the reports, a lot of companies choose not to disclose the identified sustainable risks. There are several reasons why companies may choose to not disclose the impacts sustainability-related risks have on the company (WBCSD, 2016). Among them is the limited knowledge on the issues itself, such as if the emergent risk will have any influence on their operations or stakeholders or if the company will be able to quantifiably assess the risks with the available tools and data (WBCSD, 2016).

To help with dealing with the latter reason a new area within risk management has arisen called sustainability risk management (SRM). It is a fairly new concept and it focuses on the identification and mitigation of emerging environmental and social risks. However, when

going through the reports of companies that did disclose their risk management strategies none of them mentioned the SRM thus it will not be a focus of this discussion. Nonetheless, it could be a tool companies will use in the near future with the constant appearance of emergent risks that are not addressed by the old risk management model.

In summary, companies need to manage risks arising from sustainability. The most material issues such as occupational health and safety, environmental footprint, and customer welfare can have a big impact on the company. As mentioned in the introduction by Arvidsson (2018) the reason for why to report sustainability is to i) gain maintain and/or repairing legitimacy" ii) "improve stakeholder relations" or iii) "decrease information asymmetry" which can be achieved by leveraging risk management. By disclosing the strategy and awareness about potential risks the company is tackling the first why of sustainability reporting. Furthermore, by addressing the issues and risks they are answering the last two why's for reasons to report. They show they care and see value in the sustainability trends by including all the different stakeholders and potential impacts they may have on the operations as well as practice transparency in their operations by not being afraid of addressing risks.

7. Conclusion

This project started by covering the current trends in sustainability reporting discussing the tendencies depending on the industry. This led to the creation of the research question identifying how a construction materials company can recognize the most relevant sustainability issues within their industry?

To answer the question, the study set out to discover these materiality topics by conducting a quantitative study, in the form of a survey. This survey was constructed based on the GRI Reporting framework. The questionnaire was sent out to a variety of stakeholders within the Cembrits network. From the survey, it was discovered that the following three topics were the most important for the stakeholders: product safety and quality, indoor air quality, and occupational health and safety. These topics were later compared to what other sustainability reports disclose as of material importance to construction buildings companies. When combining the survey results with the outcomes from the reports, it was discovered that occupational health and safety, environmental footprint, and customer welfare were the top three material topics.

Following this comparison, the study discussed why companies do not report, what is the future of sustainability reporting, and finally how to mitigate risks. The lack of reporting influences their legitimacy and transparency which are two of the most sought-after characteristics of operations. As the popularity of sustainability will rise it will eventually be institutionalized and mandatory for all companies regardless of size and industry. Furthermore, it will evolve to better address arising issues. Lastly, as the legitimacy and stakeholder relations are key for any business the enterprises have to disclose how they aim to mitigate risks connected with the material issues. The effects of poor risk management can harm the operations and trust of the stakeholders.

Finally, this study suggests a series of future research that should be investigated in future analysis. Firstly, to better understand stakeholders' views for the construction materials industry qualitative research should be conducted. The quantitative study should be expanded to include more stakeholders and also questions about the adequacy of the selected issues.

Lastly, to better analyze the risks, research on sustainability risk management for the construction materials industry should be conducted.

Bibliography

AccountAbility. (2018). AA1000 Accountability Principles. Retrieved from https://www.accountability.org/

Alliance for Corporate Transparency Project. (2018). *The state of corporate sustainability disclosure under the EU Non-Financial Reporting Directive*. Retrieved from https://www.allianceforcorporatetransparency.org/assets/2018_Research_Report_Alliance_Corporate_Transparency-66d0af6a05f153119e7cffe6df2f11b094affe9aaf4b13ae14db04e395c54a84.pdf

Anderson, E. (2014). *Business risk management*. Chichester: Wiley.

Aquila, J. (2018). The Current State of Sustainability Reporting - The CPA Journal. Retrieved 2 June 2020, from https://www.cpajournal.com/2018/07/30/the-current-state-of-sustainability-reporting/

Arvidsson, S. (2018). An Exposé of the Challenging Practice Development of Sustainability Reporting: From the First Wave to the EU Directive (2014/95/EU). *Challenges In Managing Sustainable Business*, 3-24. doi: 10.1007/978-3-319-93266-8_1

Ashford, M. (2010). What Happens Inside a Landfill?. Retrieved 6 June 2020, from https://www.livescience.com/32786-what-happens-inside-a-landfill.html

Bansal, T., & DesJardine, M. (2015). Don't Confuse Sustainability with CSR | Ivey Business Journal. Retrieved 3 March 2020, from https://iveybusinessjournal.com/dont-confuse-sustainability-with-csr/

Beske, F., Haustein, E., & Lorson, P. (2019). Materiality analysis in sustainability and integrated reports. *Sustainability Accounting, Management And Policy Journal*, *11*(1), 162-186. doi: 10.1108/sampj-12-2018-0343

Blanco, C., Caro, F., & Corbett, C. (2017). An inside perspective on carbon disclosure. *Business Horizons*, *60*(5), 635-646. doi: 10.1016/j.bushor.2017.05.007

Blasco, J., & King, A. (2017). *The road ahead. The KPMG Survey of Corporate Responsibility Reporting 2017* [Ebook]. Retrieved from https://home.kpmg/xx/en/home/insights/2017/10/the-kpmg-survey-of-corporate-responsibility-reporting-2017.html

Bloomberg, M., & Schapiro, M. (2014). Give investors access to all the information they need. Retrieved 19 March 2020, from https://www.ft.com/content/0d9ccea6-db66-11e3-94ad-00144feabdc0

Bonde Christensen, H., Hail, L., & Leuz, C. (2019). Adoption of CSR and Sustainability Reporting Standards: Economic Analysis and Review. Retrieved 11 March 2020, from https://corpgov.law.harvard.edu/2019/08/12/adoption-of-csr-and-sustainability-reporting-standards-economic-analysis-and-review/

Calabrese, A., Costa, R., Ghiron, N. L., & Menichini, T. (2019). Materiality analysis in sustainability reporting: A tool for directing corporate sustainability towards emerging economic, environmental and social opportunities. *Technological and Economic Development of Economy, 25*(5), 1016-1038. doi:http://dx.doi.org.zorac.aub.aau.dk/10.3846/tede.2019.10550

Carlsson, M., & Lindqvist, L. (2007). *GRI and Global Compact. For What?* (D-level thesis). Karlstads University.

Carmines, E. G., & Zeller, R. A. (1979). *Reliability and validity assessment* (Vol. 17). Sage publications.

Chashchyna, A. (2019). Sustainability Reporting: Why Transparency is Always Appreciated. Retrieved 27 May 2020, from https://medium.com/@SustainabilityExplored/sustainability-reporting-why-transparency-is-always-appreciated-78fdba4ab9b1

Chen, L., Feldmann, A., & Tang, O. (2015). The relationship between disclosures of corporate social performance and financial performance: Evidences from GRI reports in manufacturing industry. *International Journal Of Production Economics*, *170*, 445-456. doi: 10.1016/j.ijpe.2015.04.004

Corporate Reporting Dialogue. (2019). *Driving Alignment in Climate-related Reporting Year One of the Better Alignment Project*. Retrieved from https://corporatereportingdialogue.com/wp-content/uploads/2019/09/CRD_BAP_Report_2019.pdf
Curran, M. (2015). *Life cycle assessment student handbook* (p. xvi). John Wiley & Sons, Incorporated.

Culcasi, F., Ruozzi, H., Sandia, C., & Valle, J. (2010). *How CSR has gained strength through Corporate Scandals: case studies of social, environmental and economic dimensions*. Escuela de organizacion industrial.

Dans, E. (2015). Volkswagen And The Failure Of Corporate Social Responsibility. Retrieved 30 May 2020, from https://www.forbes.com/sites/enriquedans/2015/09/27/volkswagen-and-the-failure-of-corporate-social-responsibility/#3b09f3e04405

de Nuccio, E. (2020). From Non-Financial Disclosure to Integrated Reporting. Retrieved 29 May 2020, from https://www.ifac.org/knowledge-gateway/preparing-future-ready-professionals/discussion/non-financial-disclosure-integrated-reporting

EU Directive (2014/95/EU). (2014). *Directive on disclosure of non-financial and diversity information by certain large companies*. European Commission, Brussels, Belgium.

Florez, L., Castro, D., & Irizarry, J. (2013). Measuring sustainability perceptions of construction materials. *Construction Innovation*, *13*(2), 217-234. doi: 10.1108/14714171311322174
Ford, K., Davies, M., & El-Ayouty, Y. (2000). *Government ethics and law enforcement* (pp. 302-303). Westport, Conn.: Praeger.

GlobalScan & SustainAbility. (2019). *The 2019 Sustainability Leaders Survey*. Retrieved from https://globescan.com/wp-content/uploads/2019/07/GlobeScan-SustainAbility-Leaders-Survey-2019-Report.pdf

Green Building Council Denmark. (2017). Guide til DGNB for bygninger. Copenhagen: Green Building Council Denmark.

Green Building Council. (2016). *BÆREDYGTIGT BYGGERI MARKEDSUNDERSØGELSE*. Fredriksberg. Retrieved from https://www.dk-gbc.dk/media/2127/gbc-rapport_web.pdf

GRI and the SDGs. Retrieved 17 March 2020, from https://www.globalreporting.org/information/SDGs/Pages/GRI-and-SDGs.aspx

Gronheid, J. (2019). Reflections on 'The future of non-financial reporting' 2019 - Sustainalize Belgium. Retrieved 27 May 2020, from https://sustainalize.com/be/nl/2019/10/reflections-on-the-future-of-non-financial-reporting-2019-2/

Guerlain, C., Renault, S., & Ferrero, F. (2019). Understanding Construction Logistics in Urban Areas and Lowering Its Environmental Impact: A Focus on Construction Consolidation Centres. *Sustainability*, *11*(21), 6118. doi: 10.3390/su11216118

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. https://doi.org/10.1016/j.jclepro.2013.07.005

Home - CDP. Retrieved 11 March 2020, from https://www.cdp.net/en

Human Rights. Retrieved 26 May 2020, from https://www.un.org/en/sections/issues-depth/human-rights/

International Labour Office. (2019). *Safety and Health at the Heart of the Future of Work*. Retrieved from https://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---safework/documents/publication/wcms_687610.pdf

Jezerc, G. (2018). Quality More Important to Consumers than Price as Influence of Discounts on Purchase Decisions Declines. Retrieved 6 June 2020, from https://www.firstinsight.com/press-releases/quality-more-important-than-price-study?__cf_chl_captcha_tk__=225a91885528602f9ebf22249ff794c64ed0bcc8-1591454770-0-ARkSi6uhiKB3RRg3Kphup9LmWBuEvGtTQtINSlNYKVhH9-FBnAiSJFeramkD13pLrNS7wgGuDEGjzxsnifsFph9rtWC_txp0cY6bRYci6TbNpqK28DioPieBVtYG7lMUlrIz9-kxc5Z0DJMb9x4nFZGs87Cf2mrbm_uWmLcXTf6KklF2w-iLuL_0bdWwR2Bu51RZodvCbdy1f_XEI47sfvhKYv5d9FhQxBHwAGtDqTEbMtnI1JXDDZP1bmO9mHDG_FCy6jHVMzFy1y9o5isUiS-LvtcjvfgVmNGQz6FsL7HOZZjFvLDHnTZkYIJ3RzFZboww3svD_Zlz6EIMFevN9fyzvc1oiXwdJj6_MJQT3e_UU2mRRMpKLHyGCBINXt3gm340cHQ8VR90F5HqE4Ros8jZqNc_6tvBsKhAwy6GWaNDDUybrnLlg0NOb95uQRMVdWRny75BEuJMC7mED66XRnpxXafkGZfv-N3dNCyxvrpXViYVyP0dhrptZOEjWQHCrFvU4HwVw8GAx6bg4g36QW30WeWsnC5-3M-1nMJaXt85gwunRYsPdcWQ8vs6RshDcg

Jung, J., & "Alison" Park, S. (2016). Case Study: Volkswagen's Diesel Emissions Scandal. *Thunderbird International Business Review*, *59*(1), 127-137. doi: 10.1002/tie.21876

Just How Important is Construction Waste Management in Contemporary Times?. Retrieved 6 June 2020, from https://www.signalwaste.com.au/Just-How-Important-is-Construction-Waste-Management-in-Contemporary-Times-bgp4242.html

Kaczala, F. *Integrated Water Management in Industries*. Presentation, Linneaus University: Faculty of Health and Life Sciences.

Khosrow-Pour, D. (2018). *Entrepreneurship, Collaboration, and Innovation in the Modern Business Era*. Hershey: IGI Global.

Kirabo Kacyira, A. Addressing the Sustainable Urbanization Challenge | United Nations. Retrieved 26 May 2020, from https://www.un.org/en/chronicle/article/addressing-sustainable-urbanization-challenge

Landell, H. (2016). *The Risk Matrix as a tool for risk analysis. How to apply existing theories in practice in order to overcome its limitations* (Master). University of Gaavle.

Landrum, N. E., & Ohsowski, B. (2018). Identifying worldviews on corporate sustainability: a content analysis of corporate sustainability reports. Business Strategy and the Environment, 27(1), 128-151. https://doi.org/10.1002/bse.1989

Leonard, L., & Gonzalez-Perez, M. (Eds.). (2015). *The un global compact : Fair competition and environmental and labour justice in international markets*. Retrieved from https://ebookcentral.proquest.com

Levy, D. L., & Kaplan, R. (2007). CSR and theories of global governance: Strategic contestation in global issue arenas. In A. Crane, A. McWilliams, D. Matten, J. Moon, & D. Siegel (Eds.), *The Oxford handbook of CSR* (pp. 432–451). Oxford: Oxford University Press.

Martian, N. (2015). Sustainable development initiatives influence customer satisfaction, study shows - Business Review. Retrieved 6 June 2020, from https://business-review.eu/featured/sustainable-development-initiatives-influence-customer-satisfaction-study-shows-87674

Masse, E. (2014). European Parliament approves mandatory corporate social responsibility rules - Access Now. Retrieved 11 March 2020, from https://www.accessnow.org/european-parliament-approves-mandatory-corporate-social-responsibility-rule/

Morrós Ribera, J. *MATERIALITY IN SUSTAINABILITY REPORTING: MULTIPLE STANDARDS AND LOOKING FOR COMMON PRINCIPLES AND MEASUREMENT. THE CASE OF THE SEVEN BIGGEST GROUPS IN SPAIN* [Ebook]. Barcelona: Foundation Lobbing, Business & Innovation (Icloby). Retrieved from https://www.icloby.com/wp-content/uploads/2017/09/MATERIALITY-IN-SUSTAINABILITY-REPORTING.pdf

Mugwira, T., & Nissim, D. (2018). *Sustainability reporting and the related challenges of the United Nations Global Compact signatories: A qualitative study in the Nordic region* (Master). Umea University.

Munoz, E., Zhao, L., & Yang, D. (2017). Issues in Sustainability Accounting Reporting. *Accounting And Finance Research*, *6*(3), 64. doi: 10.5430/afr.v6n3p64

Napier, T. (2016). Construction Waste Management | WBDG - Whole Building Design Guide. Retrieved 6 June 2020, from https://www.wbdg.org/resources/construction-waste-management
Paris agreement: essential elements. (2016). Retrieved 7 June 2020, from https://unfccc.int/process-and-meetings/the-paris-agreement/what-is-the-paris-agreement

Ramboll. (2019). *Sustainable Buildings Market Study*. Retrieved from https://ramboll.com/-/media/files/rgr/documents/markets/buildings/s/sustainable-buildings-market-study_2019_web.pdf?la=en
Rausand, M. (2014). *Reliability of Safety-Critical Systems*. Hoboken: Wiley.

Rendtorff, J. (2019). Sustainable Development Goals and progressive business models for economic transformation. *Local Economy: The Journal Of The Local Economy Policy Unit*, *34*(6), 510-524. doi: 10.1177/0269094219882270
SDD - GRI Database. Retrieved 30 May 2020, from https://database.globalreporting.org/search/

Snook, J. (2017). How Does Construction Impact the Environment? Retrieved 1 June 2020 at Gocontractor.com: https://gocontractor.com/blog/how-does-construction-impact-the-environment/

Soyka, P. (2013). The International Integrated Reporting Council (IIRC) Integrated Reporting Framework: Toward Better Sustainability Reporting and (Way) Beyond. *Environmental Quality Management*, *23*(2), 1-14. doi: 10.1002/tqem.21357

Stanny, E. (2012). Voluntary Disclosures of Emissions by US Firms. *Business Strategy And The Environment*, *22*(3), 145-158. doi: 10.1002/bse.1732
Statistikbanken. Retrieved 19 April 2020, from https://statistikbanken.dk/nabp10

Stubbs, W., Higgins, C., & Milne, M. (2012). Why Do Companies Not Produce Sustainability Reports?. *Business Strategy And The Environment*, *22*(7), 456-470. doi: 10.1002/bse.1756
Sustainable Brand Index. (2020). *Denmark: Official Report 2020. Europe's Largest Brand Study on Sustainability*. Retrieved from https://ss-usa.s3.amazonaws.com/c/308477602/media/16325e7e250f8dc2095832547767994/DK_Official%20Report_2020.pdf

Sustainable Development Goals .:. Sustainable Development Knowledge Platform. Retrieved 26 May 2020, from https://sustainabledevelopment.un.org/?menu=1300

Sustainable Development Goals .:. Sustainable Development Knowledge Platform. Retrieved 23 May 2020, from https://sustainabledevelopment.un.org/?menu=1300

Taneva, R., & Stracchi, C. (2018). *The Materiality Principle: A Deep Dive*. Presentation, The Netherlands.
The IIRC | Integrated Reporting. Retrieved 25 March 2020, from https://integratedreporting.org/the-iirc-2/

The Task Force on Climate-related Financial Disclosures. (2019). *TCFD Status Report*. Retrieved from https://www.fsb-tcfd.org/wp-content/uploads/2019/06/2019-TCFD-Status-Report-FINAL-053119.pdf

The Importance of Waste Management During A Commercial Construction Project. (2019). Retrieved 6 June 2020, from https://www.doncaster-skiphire.co.uk/the-importance-of-waste-management-during-a-commercial-construction-project

The International Integrated Reporting Council. (2013). *The International <IR> Framework*. Retrieved from https://integratedreporting.org/wp-content/uploads/2015/03/13-12-08-THE-INTERNATIONAL-IR-FRAMEWORK-2-1.pdf

United Nations. UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE (1992). New York.

Vigneau, L., Humphreys, M. & Moon, J. How Do Firms Comply with International Sustainability Standards? Processes and Consequences of Adopting the Global Reporting Initiative. *J Bus Ethics* **131,** 469–486 (2015). https://doi-org.zorac.aub.aau.dk/10.1007/s10551-014-2278-5

Vives, A. (2016). Is Competition Between Sustainability Reporting Standards Healthy?. Retrieved 12 March 2020, from https://www.triplepundit.com/story/2016/competition-between-sustainability-reporting-standards-healthy/25526

WBCSD. (2016). *Sustainability and enterprise risk management: The first step towards integration*.

What is the UN Global Compact | UN Global Compact. (2020). Retrieved 5 April 2020, from https://www.unglobalcompact.org/what-is-gc

Why Sustainable Development Goals should be in your business plan. (2017). Retrieved 26 March 2020, from https://www.ey.com/en_kw/assurance/why-sustainable-development-goals-should-be-in-your-business-plan

Williams, A. (2016). How Motivated Employees Can Enhance Company's Productivity. Retrieved 26 May 2020, from https://www.fincyte.com/motivated-employees-company-productivity/

Wolke, T. (2017). *Risk Management*. Walter de Gruyter GmbH.

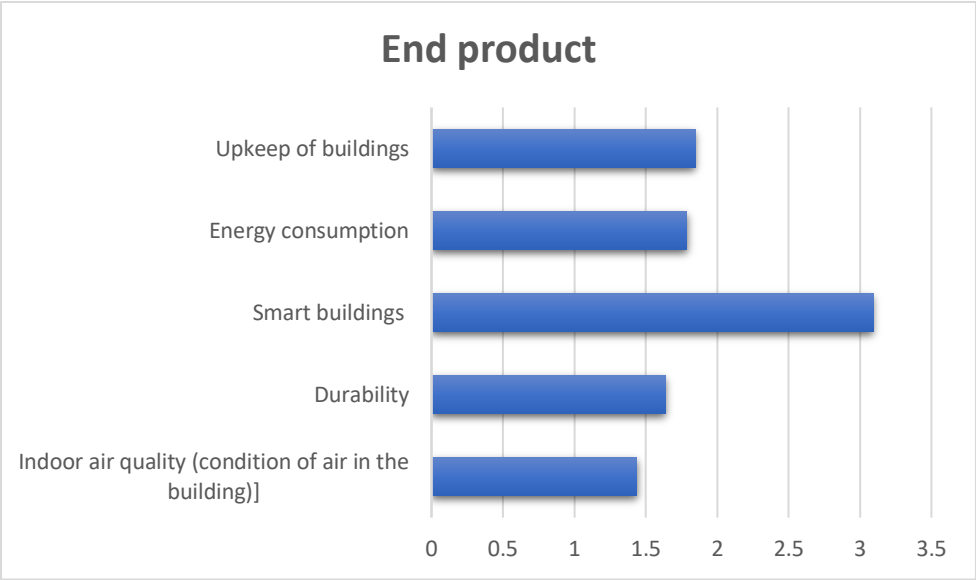
Wunder, T. (2019). *Rethinking strategic management* (pp. 120-121). Cham: Springer.

Zhou, Y. (2011, November). Materiality approach in sustainability reporting: applications, dilemmas, and challenges. In 1st World Sustainability Forum (Vol. 1). https://doi.org/10.3390/wsf-00548

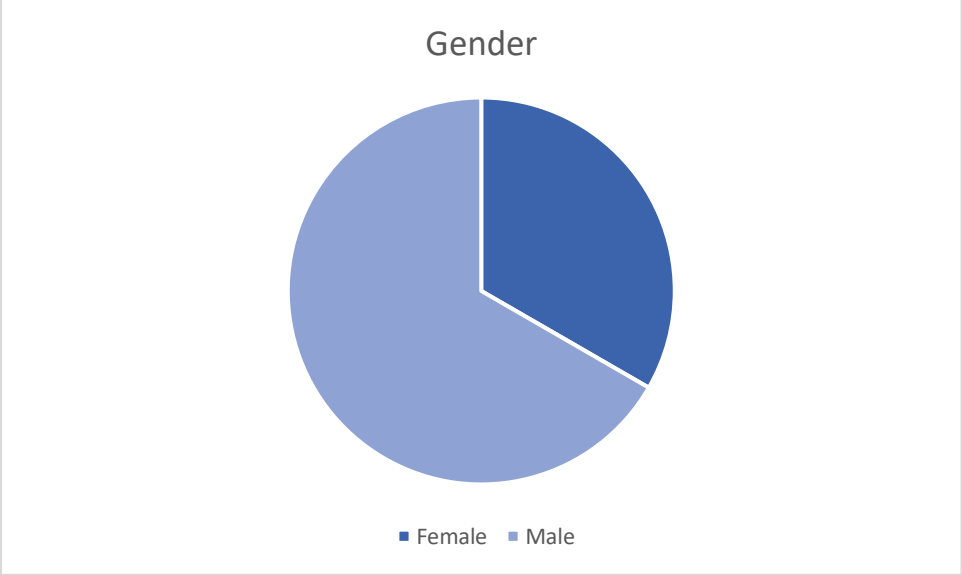
Appendices

Appendix 1

Results from the survey for end product



Gender distribution from the survey



Age distribution from the survey