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Materiality in the context of Sustainability

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Author:	**Emem Simon Inyangudom**
Supervisor:	**Berit Hartmann**

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Abbreviations

EU	European Union
IR	Integrated Reporting
GRI	Global Reporting Initiative
ESG	Economic, Social, Environmental and Governance
SEC	Securities and Exchange Commission
CSR	Corporate Social Responsibility
IFRS	International Financial Reporting Standard
IIRC	International Integrated Reporting Council
IASB	International Accounting Standard Board
FASB	Financial Accounting Standard Board
KPI’s	Key Points Indicators

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Emem Simon Inyangudom

Abstract

Author: Emem Simon Inyangudom
Title: Materiality in the context of Sustainability

Aim: This research aims to study the idea of materiality by examining how Swedish companies assess and report materiality in their sustainability reports. The research, therefore, sheds light on how materiality is being interpreted by companies in their sustainability reports and its potential to increase stakeholder accountability.

Methodology: To answer the research questions of this study a qualitative content analysis was performed. Qualitative analysis in a descriptive way in an interpretative method was used for a subjective interpretation of data, with the use of a classification process whereby the data is coded according to identified parameters from previous literature and core aspects of materiality as defined by different sustainability frameworks. For the analysis thirteen companies from three different sectors have been examined to understand how they interpret materiality in their sustainability reports in an interpretive way.

Findings and Conclusion: Companies report on materiality in different ways depending on the sector. Hence, a more sector specific guideline is required to improve the quality of reporting. Identification of material issues, materiality assessment methods and stakeholder involvement in deciding what is material are the three most effective areas as reported by the companies. However, there is less information on the frequency of engagements yearly and a clear description of stakeholder involvement. Overall, in terms of reporting materiality and other sustainability issues most companies have reflected high level of commitment in sustainability engagements and have stated plans for future development.

Contribution: There are few studies on materiality assessment and how firms report on materiality issues in their sustainability reports. The finding from this study contributes to the field of accounting sustainability, through its finding it could be concluded that companies report and assess materiality in different ways based on its operation even though they follow similar standards and guidelines. This study analysed different sectors and their core aspects of materiality assessment, which is helpful for companies in these sectors that are interested in improving their sustainability approach. The banking sector and country specific findings are part of the contribution from this study to the field and previous literature. Companies are recommended to be part of the monitoring sustainability index frameworks as the banking sector have shown it is essential in sustainability reporting. As sustainability activities can be monitored to ensure and improve on reporting concisely, relevant and clearly.

Keywords: Sustainability, Materiality, Materiality assessment, Sustainability reporting, GRI, IFRS, IR, EU Directive, Stakeholders, Materiality marix, Materiality analysis.

1. Introduction

In this section the background, concept of materiality and problematisation are presented. Furthermore, the research aim and research questions are conferred.

1.1 Background

Sustainability is diverse and relative in its meanings. This enables companies to report according to the field of relevance, in terms of the sector and organisation. One among the essential aspects of sustainability is how it is reported, and companies are required to report since they are considered accountable to their stakeholders. Sustainability reporting is a report published by a company which contains information about its economic, social and environmental improvements (Nabin, 2017). A sustainability report also presents the company's values and establishes the link between its strategy and commitment to a sustainable global economy (GRI, 2018).

In recent time, with increasing concerns about global environmental changes such as global warming, the quality of sustainability report has been essential. Sustainability reporting works as a risk management tool for organisations like the enterprise risk management system; both tools focus on identifying the risk and prioritise the identified risks (Yohe and Lasco, 2007). More so, with increasing environmental and social risk, the sustainability report helps both the organisation and society to identify and measure risk as well as to work towards reducing or eliminating such risk. This clearly shows that sustainability report has a vital role to play, not only for the environment and the society but also for the organisations (Yohe and Lasco, 2007).

In reporting sustainability, materiality assessment is crucial to achieving a relevant report. Thus, to identify material issues one of the best approaches for the companies is to reach out to both the internal and the external stakeholders in making a material decision (International Integrated Reporting Council, 2013; David and Daniel, 2014). Though companies are provided with guidelines on what to include in the sustainability report, it has been observed from previous studies that the materiality assessment is not being assessed and appropriately analysed before publishing the sustainability report and that companies omit essential information that may be useful to users (Gelmini, Bavagnoli, Comoli and Riva, 2015 and Commission EU, 2017). One of the reasons for such may be due to the high cost and time consumption involved in interacting with internal and external stakeholders. Common sustainability frameworks and guidelines used by companies are highlighted in this study.

1.2 The concept and problematisation of materiality

Materiality is the concept of accounting associated with the importance of amount, discrepancy or transaction. When the relevance of information is determined, materiality is considered (Gelmini et al., 2015). The process of reporting materiality in non-financial reports of companies may contribute significantly in identifying critical issues. These issues are considered when making social, environmental and economic decisions for sustainable development (Social value international, 2018). This makes the issue of materiality of great importance in sustainability accounting all around the globe (Global Reporting Initiative 2018;

European Commission, 2017). Organisations' are increasingly publishing non-financial information to reveal impact made by their operations on the environment, society, human rights and corporate governance (Banerjee, 2008; Bae, Masud and Kim, 2018). Thus, organisations' by reporting materiality in their non-financial reports, can reflect organisational practices and thereby improve communication between the organisation and its stakeholders (Perrini Francesco, 2006).

The term materiality is employed for making a difference between a sustainability reporting that is weak and one that is planned, logical and is based on importance (Lubin and Esty, 2014). Gelmini et al. (2018) emphasises the importance of materiality for non-financial reporting and argues that the shared vision might still be behind in terms of the relevance of information disclosure (Gelmini et al., 2018). A recent survey by Ernst and Young (2018) also highlighted the importance of materiality in sustainability reporting and pointed out that investors are increasingly becoming interested in long term value creation and transparency with 92% of investors attesting to the fact. However, they further reveal that companies are still struggling with the concept of materiality; hence, finding it difficult to embed it into their strategy (Ernst and Young 2018).

The concept of materiality is complex and evolving (Thomas, 2016). It is drawn from a long-established financial accounting profession and procedures. The concept allows for proper assessment and target setting, performance management and disclosure of identified material issues (Baumüller and Schaffhauser-Linzatti, 2018). This concept has been borrowed and applied to non-financial reporting. Thus, it may provide a "narrative core" to sustainability management that is central to sustainability reporting. The GRI states materiality assessment as an essential aspect for determining materiality. In some cases, it may be difficult to conduct as there are no proper guidelines on how to report the materiality. Cost and time may be associated with the materiality assessment process since the internal and external stakeholders are engaged in the process; it may take a lot of time and effort to conduct the assessment successfully. Other problems include companies' unwillingness to release sensitive business and corporate information demanded by stakeholders which sometimes may lead to conflict between the stakeholders and companies. The overlapping of the several topics covered under materiality by different frameworks is another common issue that may affect how companies report materiality (GRI, 2015).

These issues reflect non-financial information as containing mostly selective areas that reflects the company's critical performance rather than reporting ESG topics and its contributions to the society (Gelmini et al., 2015). However, this new reporting requirement has raised specific issues in respect to a conception that is different from an already existing definition within the field of accounting which might be considered to possess similar reporting practices (Baumüller et al., 2018). The EU-directive, GRI and IFRS frameworks are significant drivers of materiality reporting with different definitions that might easily be misinterpreted by companies in their sustainability reporting. These frameworks address relevance as a vital aspect of reporting materiality in non-financial reports.

The EU-directive and GRI require increased transparency and trust in matters concerning corporate sustainability reporting (Directive 2014/95/EU). In contrast, the latter requires that

companies focus on materiality judgements for financial reporting that are free from errors, to extend profit maximisation and shareholders benefit (IFRS 2, 2017). The relevance of two significant issues to be addressed within materiality is information overload and greenwashing (Baumüller et al., 2018). However, different types of 'materiality' exist within the directive itself. This can require organisation to create individual judgements on how and what is relevant.

Scholars have explored the issue of materiality, and one of the studies by (Baumuller et al., 2018) argued that the issue of non-financial reporting had not been explored much. The authors also argued that most of the companies' focus on financial reporting, and only a few companies invest resources and time on non-financial reporting. Similarly, KPMG (2017) identified issues related to non-financial reporting by the companies and the reason behind such behaviour. Hence leaving room for many unanswered questions and confusing both preparers and therefore the readers of non-financial reports. (Baumüller et al., 2018). It was thus found essential to explore the concept of materiality with the view of obtaining insight on how organisations give meaning to the complex definitions of materiality in non-financial reporting.

For this study, I looked at four frameworks. Also, for clarity, I have started by defining materiality according to International Financial Reporting Board (IFRS) were the concept of materiality has been drawn from and introduced into non-financial reporting. The EU directive, Global Reporting Initiatives (GRI) and Integrated Reporting (IR) frameworks also have its definition of materiality. These are common frameworks predominantly used by companies to define and assess what is material in their reports. Hence, it was essential to analyse these frameworks concerning how companies have interpreted them in outlining what is material in their report.

Materiality is defined according to IFRS as "the extent of omission for accounting information that might lead to a judgement by the reasonable person through reliance towards information that seems amended or influenced due to misstatement" (IFRS, 2015).

The European Union in 2014 introduced materiality in the non-financial report similar to the definition of the IFRS. Article 2(16) of the EU directive 2014/95/EU defines materiality information as "the status of information where its omission or misstatement could reasonably be expected to influence decisions that the users make based on financial statements of the undertaking" (EU, 2014).

Also, the GRI defines materiality as "reflect the organisation's significant economic, environmental and social impacts; or substantively influence the assessments and decisions of stakeholders" (GRI, 2015). Lastly, the IR defines materiality as "A matter is material if it is of such relevance and importance that it could substantively influence the assessment of providers of business capital with respect to the organisations' ability to create value over the short, medium and long term" (Integrated reporting.org, 2018). "In determining whether or not a matter is material, senior management and those charged with governance should consider whether the matter substantively affects, or has the potential to affect substantively, the organisation's strategy, its business model, or one or more of the capitals it uses or affects" (Integrated reporting.org, 2018).

The different definitions of materiality show that different frameworks have given different definition. Although all the definitions cover the same broad objective of materiality, the indicators taken into consideration are different. For example, the IFRS focus more on the definition of what is material in order to increase profit and shareholder value. The EU influences decision making and focuses on reporting only important social and environmental issues. GRI carries out critical assessment through stakeholders' dialogue and matrix assessment. At the same time, the IR proffers the integration of both financial and non-financial report in order to create value and manageable report to determine what is material.

Hence, with different indicators being used to measure materiality, it may become difficult for companies to decide on which indication to adopt when making materiality assessment (GRI, 2014; European Commission, 2017). More so, to the best of my knowledge, there is very little research done on understanding how organisations' interpret the meaning of materiality in their non-financial reports. This makes it vital to study how the companies describe materiality in their reports. Gelmini et al., (2015) carried an investigation on the attitudes of companies when disclosing their approach towards materiality due to both prominent and complex processes of materiality as highlighted by different frameworks. However, the assessment of materiality based on specific parameters in Sweden has not been conducted before. There are also limited works of literature on the comparative study of materiality assessment for different sectors. Therefore, this study is focused on analysing how companies interpret and assess materiality in their report based on specific parameters and to make a comparative study for different sectors (Statisca, 2020).

1.3 Research Aim

This research aims to study the idea of materiality by examining how Swedish companies describe and assess materiality in their sustainability reports. The research, therefore, should shed more light on how materiality is being interpreted by companies in their sustainability reports and its potential to increase stakeholder accountability. Specifically, the study focused on the following research questions:

- How do organisations describe core aspects of materiality in their sustainability report?
- How are companies reporting their materiality assessment?

Thirteen Swedish companies from three sectors was chosen for this study which includes manufacturing, banking and telecommunication. These sectors were chosen because of their capital strength and the high impact they have on the society. The results from the study will therefore include sector related conclusions.

2. Literature Review

This section reviews the contemporary definitions and assessment of materiality in the different reporting standards as well as existing literature in the field. The different guidelines are designed to assist organisations in non-financial reporting. Although these standards reflect the diverse and partially conflicting perspective of materiality, they also share some similarities in their approaches. The different reporting standards are presented then a table which highlights and discuss their aims and challenges, then the core aspects of materiality are presented which formed the basis for the analysis.

2.1 Materiality in financial accounting according to IFRS

Materiality is a central concept in accounting practice. This enables in obtaining several financial aspects related to disclosure of risk issues, renegotiation refunds and income tax allocation (Forstater et al., 2006). During the 1930s, the Securities and Exchange Commission (SEC) had shown concern about lack of information disclosure in financial statements, which misaligns the crucial details. Public concern was thus raised in relation with materiality through the creation of SEC in the year 1934 (Baumuller et al., 2018). This further continued through the mandate urging information disclosure to protect the interest of investors and other stakeholders. This had ruled quantitative and qualitative data as a critical factor for disclosure.

Materiality illustrates the ability of accountants in determining if error or misstatement might affect users' decisions for financial statements (Jones et al., 2016). Materiality formalises through the threshold of error that becomes an essential factor for consideration and judgement. IFRS framework depicts materiality of information for misstating or omitting, which could affect the decisions taken by users based on financial information present in reports. Materiality is thus an entity-based aspect that is related as per magnitude or nature of items. The information here relates with financial reporting of individuals in accordance with IASB not specifying quantitative threshold associated with materiality (Baumuller et al., 2018).

The FASB adopts a position like IASB to result into the reliance of materiality for the magnitude of misstatement for accounting details, which surrounds circumstances for making it likely that judgement is based on information that is influenced by misstatement or omission (Forstater et al., 2006). International Accounting Standard sets out misstatements as material if these are expected to influence decisions taken by users as per financial statements.

Furthermore, judgements related to materiality are taken as per related circumstances, which are affected through nature and size of misstatement. More so, judgements related to material of financial statements are taken as per financial information requirements of the users to influence misstatements (Guthrie and Abeysekera, 2006).

Materiality is a key concept used in financial reporting. For instance, it is quite commonly used in legal agreements for obtaining material information, which may or may not relate to the financial aspect. However, various materiality definitions are associated with financial reporting to interpret the principles adopted by international organisations. Accounting practice also enables in measuring materiality for likely loss/gain of net income in quantitative terms (Forstater et al., 2006).

2.2 Materiality in Sustainability reporting - GRI standards

The Global Reporting Initiative, launched its first research into the topic of materiality in organisations in May 2013, aimed at building a shared global understanding of sustainability issues (Global reporting, 2014). The framework expresses importance on the quality of sustainability report and in this context regards materiality as ‘relevant topics’ which are considered necessary for reflecting an organisation’s economic, social and environmental impacts as well as decisions of stakeholders (GRI, 2018). The question, therefore, is: what is ‘relevant’?

Research has shown that an issue may be material from one perspective and not from another perspective (Gelmini et el 2015). Furthermore, companies may seek to identify and understand the stakeholders’ perspectives and choose to rate these in some context that is of business priorities. For this reason, it can be argued that materiality may not be a simple test for quality sustainability reporting. It could be viewed as a balanced assessment of a company’s internal and external perspective over a range of evaluated risk and conceptions (Gelmini et al., 2015).

According to the previous study by Baumüller et al., (2018), companies struggle to produce a more concise report and instead keep them under the information overload threshold. The aim of the GRI is for organisations to offer its stakeholders with insight about environmental social and governmental (ESG) factors on how it contributes or aims to contribute in the future towards the improvement of economic, social and environmental conditions of the society (G4, 2013). It is also important to note that everything cannot be termed as a top priority as organisations are faced with a wide range of topics (GRI, 2014). Instead, an organisation should report aspects that reflect its significant economic, social and environmental impacts (GRI, 2014).

Regarding the triple bottom line of sustainability, the notion of “impact” may be considered an abstract conception in sustainability accounting due to the full range of definitions and logics that may exist in determining them—thereby making the GRI’s definition very broad. Accordingly, material issues can run across issues involved with reporting (Forstater et al., 2006). The question arises for significant factors that could affect the competitive performance of an organisation, including its customer base, reputation and brand. Several attempts are put forward to form a materiality matrix featuring main sustainability issues, based on assessments and the decisions of its stakeholders. The two dimensions: stakeholders and impact, as expressed by the GRI, forms the basis for matrix aimed at identifying topics that are to be included in the sustainability report. This is based on interviews and a checklist of several topics discussed between stakeholders and the companies (GRI, 2018). Effectiveness of such materiality matrix is however limited in scope. It does not offer priorities involved with industrial benchmarks or groups, for comparing performance on sustainability topics and innovation characteristics representing adaptability and resilience for changing time (Tschopp and Huefner, 2015).

Reporting materiality in sustainability reports is thus used for assurance and auditing purposes. This may cause an impact on sustainability actions and decisions related to the organisation and its stakeholders. Material reporting on sustainability issues enables external stakeholders to understand a company's real value, tangible and intangible assets while providing valuable information to the affected communities and stakeholders (GRI global reporting, 2014). It improves and mitigates companies' impact on the local economy, society and environment.

Senior management in companies is responsible for familiarising developments to begin the reporting of materiality in non-financial reporting. The process concerns the development and involves stakeholders and corporate personnel across various departments and disciplines. The executive board must acquire the skill and knowledge required in order to report and determine the sustainability impact and stakeholder engagement (Monteiro and Aibar-Guzmán, 2010).

2.3 Materiality based on the EU- directive requirements for non-financial reporting

Directive 2014/95/EU in 2014 laid down rules on the disclosure of non-financial reports by large companies. This requires companies to include non-financial statements in their annual report with effect from 2018 (EU Commission, 2014). However, there was no mention of the word materiality or material, given its importance in accounting and non-financial reporting. In 2017, there was an amendment providing companies with non-mandatory guidelines to help disclose social and environmental information identifying materiality as a critical principle the reporting requirements of the directive (EU, 2017). It is important to note that there exist several types of materiality in the new guidelines, and the concept is not consistently used throughout the requirement of the Directive 2014/94/EU (Baumüller et al., 2018). The different types of materiality are presented below.

2.3.1 General provision for reporting materiality

The general provisions for non-financial reporting as stated in Article 1 of the directive requires that "Large undertaking shall include in the management report a non-financial statement containing information to the level necessary for an understanding of the undertaking's performance, development, position and impact of its activity". It introduces an element to being considered when defining what is materiality "referring to information "*to the extent necessary for an understanding of the impact of (the company's) activity*" (EU Commission, 2017). The directive expresses information necessary for understanding and not 'material' leaving room for companies to decide what is material. The definitions reflect that companies are required to report information that is relevant for its profit and loss, liabilities, assets and financial position. Thus, linking the requirement toward financial perspectives rather than non-financial (Gelmini et al., 2015). In contrast, the use of *'impact of its activity'* could be related to sustainability reporting. In other words, relevance for society and company would have to be met simultaneously. However, since the organisation would have to reconcile both in order to determine relevance, information may seem material as long as it aligned with the financial perspectives of the company and its impact from the stakeholder perspective. The stakeholder may be a specific group of financial providers that take decisive attention in the company. Thus, making this link to non-financial reporting quite narrow compared to the GRI idea of stakeholders' decision and the use of matrix for better materiality assessment (Baumüller et al., 2018).

The EU-directive provides general guidelines and reporting frameworks but no actual industry-specific materiality approach, thereby leaving room for interpretation on what and how to measure for materiality (Gelmini et al. 2015). For instance, organisational understanding and interpretation of materiality may differ from each other, thus affecting the way the subject is interpreted. Organisational intent may play a role as to what the company considers material to them, by using the lens of their organisation in making final decisions on what is material rather than viewing from a stakeholder lens (Baumüller et al., 2018).

Despite all these guidelines in place, companies still struggle to separate material issues from immaterial issues (Taubken & Feld, 2018). The directive clearly states that the impact of a company is relevant when making non-financial disclosure, whether positive or adverse; thus, companies should cover both in a clear and balanced way. "*The non-financial statement is expected to reflect an organisation's fair view of the information needed by the stakeholders"* (Art. 19a (1) Directive 2013/34/EU). However, since there are no strict sanctions that require an exceptional focus on compliance with specific social value, regulations, rules or committed norms with regards to how material issues should be tested, assessed and be reported (Baumüller et al., 2018). It might affect the interpretation of materiality and how individual corporations relate to the subject.

2.3.2 Materiality in the context of principal risk

The directive also regards the reporting of materiality on 'principal risk' related to those matters linked to the company's operation' as vital for non-financial reporting (Recital 8 Directive 2014/95/EU). This will require organisations to make their judgements on materiality based on two aspects – likeliness of occurrence and severity of impact (Baumüller et al., 2018). Art. 19a (1)(d) suggests the need for a materiality matrix for non-financial risk (EU Commission, 2018). The issue here is that the company's decision to include these risks in the non-financial report is based on the second judgement of material with the general provision which allows organisations to make such decision "information necessary for an understanding of the company's impact of its activity. The directive further states that 'It may, therefore, be appropriate to directly compare non-financial disclosures among companies within the same sector' (EU Commission, 2017).

2.3.3 Materiality in the context of non-financial KPIs

The directive, according to Art. 19a (1) requires that "all non-financial key performance indicators relevant to the business are presented" in the non-financial report. It further encourages companies to disclose material KPIs, both general and sectoral (EU Commission, 2017). This means that first is to identify the material matters as per the general provision and secondly to provide the non-financial KPIs for each of the identified matters. It can be argued that the relevance for the KPIs may vary (Taubken & Feld, 2018). Certain material matters might require a more detailed explanation of due diligence processes and non-financial KPIs may be challenging to find, i.e., anti-corruption and bribery matters. Environmental and social matters may require extensive reporting of non-financial KPIs. Hence, the scope of application in the context of materiality is different. Also, having too many KPIs in the non-financial report without relevance for its users could conflict the requirement of clearness and concise (Baumüller et al., 2018).

2.3.4 Materiality and the right to omit information

Art. 19a (1) states that "Member states may allow information concerning impending developments or matters within the course of negotiation to be omitted […] as long as such omission does not prevent a fair-minded and balanced understanding of the undertaking's development, performance, position and impact of its activity." (EU Commission, 2017). This is often considered to be one of the most controversially discussed regulations of the Directive as it is considered detrimental to fulling the general provisions of non-financial reporting (Baumüller et al., 2018).

There are other various aspects of materiality which has been taken into consideration. Previous studies by Garcia et al., (2018); Gelmini et al., (2015) argue that stakeholders' engagement in deciding materiality is one of the essential components of the materiality reporting. The engagements criteria include whether the company has revealed the frequency of the engagements and who were the major stakeholders included in the assessment. The assessment method is considered another relevant aspect of materiality reporting. The sustainability report should include the materiality assessment method used by the company and also whether the company itself developed the method or it was taken from some other standard assessment methods.

Furthermore, studies have also used some other aspects, such as the metric of values and the share value of the company. Baumüller et al., (2018) argue that the structure of the report also plays a vital role in sustainability as well as on the improvement measures taken into consideration by the companies. Therefore, this study also takes into consideration the various aspects of materiality as identified by previous studies.

2.4 IR and the concept of materiality based on the IIRC framework

Materiality has also been emphasised within the integrated reporting (IR) framework making it one of the most critical and controversial issues (Gelmini et al. 2015). The vision of IR will not replace other forms of reporting, but that corporations, state-owned entities, huge undertaking and government agencies may be required to provide only relevant information to elucidate the key drivers of their non-financial performance. This may only be included in their non-financial report if recognised as material by their stakeholders (IIRC, 2013). Organisations, therefore include ESG information in their integrated reports to supply information about their resources, relationships and clarify how they interact with the external environment and create value for themselves and the society (Idowu & Schmidpeter, 2019).

GRI and IR encourage a comprehensive program that devotes towards the combination of sustainability reports with financial statements to come up with an integrated report instead of opting for separate financial report and sustainability report (Gelmini et al., 2015).

The concept of IR has thus gained momentum since past few years and offers the means to converge sustainability reporting in the form of narrative communication. This is also going to offer a driving mode for reshaping the strategy, communication and governance as per the triple-bottom-line approach of sustainability. IR enables in providing narrative related to an organisation’s performance as a critical goal. Sustainability reporting is thus viewed to add non-financial information about ESG issues in financial reports (Monteiro and Aibar-Guzmán, 2010). Thus, the integrated report works towards improving the approach towards tackling financial and non-financial issues. Diversity of information enables linking and disclosing such issues. Materiality enables in presenting integrated reporting for disclosure of sustainability information affecting the ability of an organisation in creating value over time (Forstater et al., 2006). This pattern is believed to offer integrated reporting through the identification of related matters about organisation’s ability in influencing value creation. Assessment of materiality information is essential for disclosure purposes. This helps in determining the details that should be disclosed. Furthermore, matters are prioritised as per relative importance. This process helps in carefully processing the information for considering stakeholder engagement to affect materiality in determining the process of stakeholder engagement (Elias et al., 2004).

IR framework engages with various paths for developing shared notion about materiality in reporting (Banerjee, 2008). As earlier defined according to IR, materiality is achieved when relevant information focus on matters that will affect the organisation’s ability to create value over a short, medium and long term (IIRC, 2013). However, in order to arrive at individual judgements about materiality, the framework provides necessary guidelines (IIRC, 2013).

1. Identify relevant matters based on the company’s ability to affect value creation.
2. Evaluate the importance of relevant matters in terms of known risk and the potential effect on value creation.
3. Prioritise matters based on their relative importance
4. Information that has not been disclosed should be determined, stating that both internal and external perspectives should be considered to identify matters relevant for non-financial disclosure.

It thereby requires regular engagement between preparers and users of the report (IIRC, 2013). It is relevant to note that the purpose of the IR guidelines is to give stakeholders information on how organisations can create value over a short, medium and long-term period in contrast to materiality assessments in the context of a sustainability report. (Gelmini et al. 2015). Also, there is a clear focus on financial matters and relevant stakeholder groups, such as capital providers. Hence the significant difference could be seen in the aspect of value creation.

2.5 Challenges of Materiality Concept

The relationship between materiality and the main principles of integrated reporting in terms of conciseness, comparability and consistency still needs great attention (Gelmini et al. 2015). Pistoni and Bavagnoli (2018) suggest less than fifty pages as concise for an integrated report. However, companies have the freedom to choose from vast frameworks to guide in assessing materiality issues that concerns the company, in order to enable real action that will create social, economic and environmental benefits for the society (GRI, 2018). Materiality approach considers dilemmas associated with stakeholder approach and is often objective in defining issues related to sustainability reports but does not follow a scientific approach (Forstater et al., 2006). Materiality challenges are compounded due to the reason that not enough data is available about stakeholders. Instead, the organisation makes a decision based on assumptions. (Ortar, 2016).

Chatterji and Toffel, 2010; Kalllinikos, Leonardi and Nardi, 2012 depicts that one of the significant problems identified is that the materiality process was not considered as an essential aspect of reporting and therefore isolated from the core business as it was only considered as a regulatory requirement. This explains why senior management is not involved, which automatically reduced its importance among the internal team (Kallinikos et al., 2012). The GRI, in its definition, states the importance of senior management involvement is in reporting materiality.

Furthermore, prioritisation is another issue against sustainability, which interrelates with frustration towards a separation of issues in a distinct manner (Ortar, 2016). Challenge in terms of interrelated issues restricts separation of sustainability issues for prioritising reporting. However, GRI further offers ESG indicators to identify the issues involved with sustainability (Tschopp and Huefner, 2015).

Another challenge is in terms of stakeholder engagement in deciding material issues as the primary factor to determine materiality. Sustainability and integrated reporting account for stakeholder engagement in determining the data and information be included in reporting (Gelmini et al., 2015). Thus, the stakeholders' engagement plays a vital role in the assessment of material items. The involvement of stakeholders further enables an informal set of processes to allow the organisations in considering stakeholder's view towards CSR. De-Villiers and Van-Staden (2010) argue that there is a need for a process to determine materiality from the multi-stakeholder perspective. This ensures the core values of inclusiveness and relevance. By following the formalisation of the stakeholder engagement process, decisions are taken legitimately to rely on discursive quality. Tensions may also arise between usage of materiality and achievement of conciseness which are tackled through the inclusion of material items (Waddock and McIntosh, 2011) thereby keeping the information sensible and sound.

Stakeholder management has thus got significant attention in terms of managing relations with stakeholders. These are developed beyond recognition of stakeholders for classifying stakeholders in terms of power and interest of the entity (Banerjee, 2008). Sustainability issues are accounted for in terms of the potential impact on the organisation and level of concern towards stakeholders. Thereby, obtaining common ground of importance and significance to adopt stakeholder mapping in an exemplified manner.

Materiality can be adopted as a solution to the dilemma by offering material information for reporting. This is going to fail in satisfying a broad category of stakeholders through limiting their scope for higher impact and interest. However, prioritisation of dilemmas can be achieved through materiality assessment to prevent mechanised reporting. Instead, entities are encouraged for development of materiality framework as per reporting and operating context (Waddock and McIntosh, 2011). This also helps in avoiding excessive flexibility for reporting through accounting, based on selective reporting as an issue to be followed in reports.

Another dilemma is in terms of following mechanised reports through covering items that are driven automatically based on database following management system and guidelines. For example, GRI guidelines were formed to achieve consensus for their stakeholders and organisations are already using such guidelines for sustainability reporting (Banerjee, 2008).

2.6 Core aspects of materiality

This section looks at the core aspects of materiality as defined by the sustainability frameworks and suggested by previous authors (Baumüller et al., 2018; Zahou 2017; Gelmini et al., 2015; Gray, 2014). These includes the relevant dimensions used in the analysis.

The concept of materiality has become a fundamental principle in non-financial reporting as introduced by the Directive 2014/95/EU (Baumüller et al., 2018). The increase in demand by the stakeholders to confirm transparency and fairness of organisation towards corporate sustainability has resulted in enhancing the knowledge towards global challenges (US Environmental Protection Agency, 2016). Before the introduction of 2014/95/EU directive, research work on the EU commission has explored sustainability reports of readers about the absence of required material details. They argue that the core aspects of materiality are associated with materiality assessment for a company (EU, 2014). Previous research depicts that the implementation of materiality affects both the quantity and quality of non-financial reports (Puroila, Jenni and Hannele., 2017).

Gelmini, Bavagnoli, Comoli and Riva, (2015) carried out a study on 19 companies from different countries and sectors. The aim was to investigate the attitudes of companies when disclosing their approach towards materiality due to both prominent and complex processes of materiality as highlighted by different frameworks. The authors developed specific parameters which they believed could be conveniently used to describe the core aspects of the process of materiality. These dimensions are viewed from the most relevant aspects of determining materiality issues consisting of stakeholder engagement in deciding what is materiality, method of assessment, comparability, a process for improvement in place, the frequency of engagement in making a material decision, conciseness and consistency of the report.

Their findings revealed that the companies are still in an early stage when disclosing materiality in their Integrated reports. Their descriptive findings also show that the reports, as presented in 2014, are still less satisfactory for readers, since important information and issues are missing and not disclosed in transparent and comparable manners. Also, the materiality assessment methods adopted by these companies vary widely (Beske et al, 2019; Gelmini et al. 2015; Gray, 2014).

2.6.1 Materiality Assessment and Analysis

Materiality matrix is a tool to report on compliance, decisions of management and stake-holders views on identified sustainability issues and reporting. Companies explanations about how the materiality matrix was set up are of particular interest to show if the sustainability or integrated report directly address the interest of stakeholders. Also, whether their interest have been taken seriously (Beske et al, 2019). Hence, if the reporting of materiality by the company is vague it may be assumed that companies pursue other goals instead of addressing stakeholders with their report. The most commonly used methods are materiality matrix, materiality pyramids, Materiality analysis and heat map.

Materiality assessment has been indicated as an essential element in determining which information should be included in the report (Gelmini et al. 2015; Gray, 2014) This supports the requirements of the reporting standards as started above by GRI and IIRC framework. The organisations can efficiently produce and define the contents as well as address the issues of a sustainability report only when it knows the information that is important to the stakeholders.

According to Beske and Haustein and Lorson (2019) materiality assessment is fundamental as a guiding principle to limit the problem of low credibility in reports. Hence different authors highlight the importance to assess the underdeveloped research area (Beske et al, 2019). GRI defines a specific procedure for defining materiality and targeting the contents of reports by first identifying the various potential issues that can later be prioritised based on their importance. Researchers depicts materiality as an opaque concept due to complex standard setters' definition which has required researchers to focus on different perspectives in order to develop guidance for companies, thereby recommending materiality analysis (Beske et al, 2019).

2.6.2 Stakeholder Engagement

Stakeholder engagement is a process that involves fostering a shared understanding of issues identified by stakeholders and co-creation of solutions as an effective means of to address the issue for example through decision analysis (Crawford and Kartz and McKay, 2017).

The role of a broader set of stakeholders' engagements, such as regulators, investors, society, employees, suppliers and customers as opposed to prioritising one stakeholder group over the others for example capital providers/most influential stakeholders (Jenni et al., 2017). They argue that stakeholder view is essential in developing organisations and their operations towards a more sustainable practice that responds to their expectations. Diverse stakeholders' interest and claims vary; hence, it is required for the organisation to balance these interests in their decision making else these conflicting interests may lead to a different outcome (Brown, 2009).

The GRI criteria for prioritisation as earlier stated, is based on the influence of stakeholder assessment and decisions as well as the importance of the organisation's ESG impact. More so, stakeholders are included in all stages until final decisions are made on validation of what material sustainability issues should be included in the report while IR engagement of stakeholder is carried out to identify, evaluate and prioritise matters that affect value creation over a short, medium and long-term. Also, the EU framework in its general provisions for materiality issues allows organisations to decide materiality based on the impact of its activity as long as its stakeholders are in agreement with the identified issues which is quite different from actually engaging shareholders in the whole process of decision making. Furthermore, Jenni et al., (2017) addresses specific questions such as: how do companies identify the set of material issues? what kind of stakeholder engagement activities have been used? They found out that companies have neglected the connecting of stakeholders' views in ESG issues of sustainability with the business considerations. Stakeholder involvement in decision making to achieve economic-core value has been viewed as problematic in achieving sustainability goals and thus, have been criticised by various researchers (Birkin, 2000). In general stakeholder engagement is argued to be problematic since its conceptual foundation remains unclear and arguable (Zahou, 2017 pg. 87)

2.6.3 Shared value

The shared value in the context of the materiality is one of the process used by firms to integrate various stakeholders in the business. In some cases the firms use specific communication strategies to communicate the results from the sustainable activities. One of the most used shared value process is the corporate social responsibility. Many firms around the world integrate their CSR policies with the sustainability activities. López and Monfort, (2017) examined how the firms included the CSR in the sustainability report and created shared values. The analysis was performed by analysing the content of identified values with the CSR and found that companies have integrated the shared value with the stakeholders and establish the communication. However the value creation was defined in different manner by the companies.

Shared value can be created by the firms using various policies and practices which will not only strengthen the company's competitiveness but also tackle the challenges faced by the society (Kramer and Pfitzer, 2016). Companies represent themselves as the agents for the social change. However, the link between the social progress and success of the business is always missing (Kramer and Pfitzer, 2016). In other words, even though firms promise to make the society a better place by creating the shared value, their major focus lies in creating more profit for themselves. For example, if the shared value is created as promised by the firms the global issues such as poverty, pollution should have declined, and the profits of the firms increased. Various scholars have proposed various strategies to create the shared values by the firms. This includes the acceptability by the firms to operate in the shared ecosystem and everyone has their role to play. The government, community members, NGOs are all the part of the same ecosystem hence, are part of the shared value. Kania and Kramer, (2011) have also proposed a successful collaboration between the social sector and the companies.

2.6.4 Metric of Value

The metric of value is also an important aspect of reporting materiality. It has been shown that there are majorly three metrics needed to be taken into consideration for the sustainability report (UNEP, 2014; Institution of chemical engineers, 2016). This includes the environmental indicators, economic indicators and social indicators. The environmental indicators includes various aspects of the values used by industries such as the usage of the resources (energy, material, water, and land), emission and waste, impact etc. Similarly the economic factors includes financial indicators such as the profit, tax and investments. Finally the social metrics includes the variables such as the environment of the workplace (health and safety, situation of the employees) and society (engagement of the society, benefits to the society etc.). The metric of value in the various sustainability reports are measured in terms of these factors whether the firm has reported all these information (Global Reporting Initiative, 2015; CSR Europe, 2017).

2.7 Summary of literature review

The literature review shows a summary of the definitions and main requirements of assessing materiality as proposed by the various sustainability reporting frameworks and standards. For this study, I have critically assessed the parameters used from previous studies and main aspects the various sustainability frameworks have discussed in common in defining what is material. I have also listed various challenges and uncertainties in table 1 below that could be argued to be caused by these complex and conflicting definitions of materiality and thus affect how companies report on materiality. The parameters used from previous literature have been modified to fit this study in order to answer the research questions of examining the core aspects of materiality as described and assessed in the companies' sustainability reports

The main aspects that have been selected for analysis in the reports of the companies' include stakeholder's involvement, conciseness of the report, method of assessment and how it is being adopted, frequency of assessments carried out by the companies, business relevance, shared value, a metric value in place and the process of improvement mechanism in place. Since different reports of companies are analysed, these parameters are used to give a common ground for analysing the reports. Thereby ensuring it is unbiased.

Frameworks	Definitions	Key aspects	Challenges
GRI	"The report should cover aspects that reflects the organisation's significant economic, environment and social impact or which reflects substantively influence the assessment and decision of stakeholders."	Critical assessment of materiality. Outside-in approach	Lack of comparability, Unconcise report, Different interpretation of materiality, Stakeholders dialogue and Materiality assessment
IR	"An integrated report should explain the factors that affect the organization's ability to create value over time. Focusing on core matters encourages meaningful and manageable reports that support decisions."	Ability to create value and manageable reports to support the decisions for investors. Focus on short, medium and longterm, Outside-in approach	Value creation rather than focusing on how to access and report materiality. Thereby sharing same aim as IFRS focus on financial reporting of materiality
IFRS	"Information is material if omitting, misstating or obscuring it could reasonably be expected to influence the decisions that the primary users of general-purpose financial statements make on the basis of those financial statements, which provide financial information about a specific reporting entity."	True and fair view of financial, performance and cash flows position to providers of financial resources(investors). Focus on short-term. Outside-in approach	Focus on using materiality to increase shareholder value (financial reports) and not the quality of non- financial report
EU- Directive	"Materiality as the status of information where its omission or misstatement could reasonably be expected to influence decisions that the users make on the basis of financial statements of the undertaking. The materiality of individual items shall be assessed within the context of other similar items."	To determine the most material aspects of reporting sustainability. Outside-in approach	Lack of comparability, Unconcise report, different interpretation of materiality, Stakeholders dialogue, Complex and conflicting definitions, lack of consistency and method of assessment
Sustainability Reporting	"A report published by a company or organisation about the economic, environmental and social impacts caused by its everyday activities. Sustainability report also presents the organisation's values, governance model, and demonstrates the link between its strategy and its commitment to a sustainable global economy"	Impact on ESG development, Stackholder engagement in a broad sense, Short, medium and long-term, Inside-out approach	Materiality focus, Comparability, Concise report, Stakeholders dialogue, Consistency

Table 1. Summary of materiality assessment according to different frameworks

Table 1 summaries the different approaches to materiality according to the different generally accepted sustainability reporting guidelines and standards for materiality report content by companies. The key aspects and challenges of the different frameworks have also been highlighted. It is, however, essential to highlight the main differences and similarities of these frameworks.

GRI emphasises a critical assessment of materiality, stakeholder perspectives, selection of aspects to be reported. In contrast, IR framework emphasises on integrated reporting, value creation based on shareholders point of view. Its main purpose is on the issue of conciseness and to report significant issues through integrated reporting to financial providers, inorder to explain how companies create value over time. Overall materiality assessment is carried out to serve different purposes such as value creation or stakeholder involvement in decision making. Lastly, the IFRS focuses on using materiality to increase firms' financial value which has always been its aim in the field of accounting; hence company's adoption of the concept in non-financial report becomes compromised and not fully achieved. The main similarity between them is that the standards are shown in steps that companies are required to follow when determining material issues. However, they carry different contents. They have all defined materiality, the reason for conducting materiality and how it should be assessed, how issues should be prioritised and different criteria.

In determining whose point of view is to be considered in selecting material issues, they have shown some differences; for example, IR considers shareholder view toward increasing value for both shareholders and ESG goals. Furthermore, IR stress the engagement of stakeholders in decision making but has no specific guidelines for their engagements. At the same time, GRI and the EU clearly state the importance of stakeholders' perspective in decision making and requires the involvement of all stakeholder groups. However, only the GRI has provided clear guidelines for stakeholders' engagement. They also have a different expression on how organisations should select through the materiality analysis hence making their judgement on what is material depending on the kind of business and situation. Hence, materiality could be anything the company defines to be material. The EU and GRI have stated the different guideline that can be used to make these decisions.

3. Methodology

This section includes all the process conducted in the study beginning from the research approach, initial search of literature, sampling, data collection, to data analysis and results.

3.1 Research Approach

The purpose of the research is to study the idea of materiality by examining how Swedish companies describe and assess materiality in their sustainability reports. Content analysis is considered a popular research method within the non-financial reporting context and is mostly considered useful in exploring the content of disclosures (Guthrie and Abeysekera, 2006). Qualitative content analysis is defined as a systematic research method of subjective interpretation data with the use of a classification process whereby the data is coded according to identified parameters from previous literature and keywords (Guthrie et al., 2006). However, new parameters have been added for this study compared to parameters given by prior study (Gelmini et al., 2015). The qualitative content analysis is used in various studies to give interpretation and meaning to a text or an idea (Collis and Hussy, 2013). Thus, when applied to the topic of materiality, it helps in making a result-oriented analysis. Furthermore, the literature review and methodology have formed the foundation of this study which is built on previous literature, secondary data, and personal knowledge to contribute to the field of study. I have combined existing frameworks, definitions with critical analysis to seek qualitative analysis to form the basis for conducting the analysis, discussion and conclusion as advised by Yin, (2017) to help me answer the research question.

This study reflects a comparative case study of the sustainability reports of Swedish companies. The study examined the reports of thirteen different companies from three different sectors for the year 2018. The companies are the largest in their sector and have been reported to have the highest turnover as at the year 2018 (Statista, 2020). According to Collis and Hussy (2013), examining the largest companies in research helps to draw on a better analysis and result, and not all companies can be examined. Hence, studying these thirteen companies has assisted me in answering the research question. The process involves studying the companies sustainability reports in detail and extracting the critical information related to the materiality from them. Each of these reports represents a case that enables me to understand how the organisation express materiality in their reports. This has enabled the comparison of different reports in detail in order to discover what they have in common, what differs and thus draw on a conclusion from the analysis.

3.2 Initial search of literature

Google Scholar and the University of Gothenburg database aided the selection of literature and resources. This is to enable the search of up to date, relevant resources including works of literature, published reports, articles that are related to the topic and research question as advice by (Collis and Hussy, 2013; Johnson and Onwuegbuzie, 2004). Then, after works of literature was sourced from reputable sources, the next step was to carry out a literature review on similar recent studies considering the topic itself is a new phenomenon.

3.2 Sampling and Data Collection

The sample of companies was selected from three sectors which includes manufacturing, banking and telecommunication. These three sectors are of particular importance to society because they are significant sectors that are capital intensive and have an enormous effect on society in terms of providing services and products. Thus, within these sectors, thirteen largest companies were chosen based on large companies with the highest turnover in the year 2018 in their different sectors. They include four (4) large companies from the banking sector, four (4) large companies from the telecommunication sector and five (5) large companies from the manufacturing sector.

Statista, (2020) ranks companies based on their yearly net profit and categorises these companies in sectors with respect to the services they provide. For example, banking, manufacturing etc. These are the ranked company and their 2019 turnover as reported by Statista: SEB bank (SEK 22,800 billion) Nordea Bank (SEK 42,300 billion), Svenska Handelsbanken (SEK14,500 billion), and Swedbank (SEK 19,4 billion) which are rated to be top banks in Sweden based on turnover (CFI, 2020). From the telecom sector, telecommunication companies including Telia AB (SEK 79,800 billion), Tele2 AB (SEK 25,000 billion), Eltel AB (SEK 13,000 billion), and Telenor AB (SEK 11,300 billion) were selected based on their turnover (Statista, 2020). Top manufacturing companies in Sweden based on turnover include Volvo AB (SEK 390.800 billion), Vattenfall (SEK 156.800 billion), Ericsson AB (SEK 210,800 billion) and H&M AB (SEK 210,400 billion SEK), Skanska AB (SEK 171,700 billion) (Statista, 2020). These companies were selected in view of their relevance to the study, as companies that did not mention materiality in their sustainability report were considered irrelevant.

The sample size of thirteen was taken into consideration based on the availability of the data and the time to conduct the research (Barnett, 2002; Cierniak and Reimann, 2011). Though the sample of 13 may be considered low, the companies are selected from the three largest sectors which cover the majority of the market in Sweden. More so, the selected companies, according to Statista, 2019, have been rated as the leading companies in the chosen sectors.

Sectors	Total number of large companies based on turnover	Number of companies analyzed in the sector	Percentage
Manufacturing	**10**	**5**	**50%**
Banking	**10**	**4**	**40%**
Telecommunications	**6**	**4**	**75%**
Total	**26**	**13**	**50%**

* The total number of manufacturing companies is based on the top ten largest companies in the manufacturing sector in terms of turnover as there are over 63 large companies in the sector.

Table 2. Summary of sectors

Sweden is chosen because of its well-known dedication to promoting sustainability in order to achieve a sustainable environment. According to the SCA, between 2013 and 2019, Sweden was ranked the number 1 Fossil-free and most sustainable country in the world (SCA, 2019). Therefore, the selection of companies from Sweden is more suitable for the current study.

In order to, increase transparency, comparability and the quality of sustainability reports companies are required by the EU directives to include materiality focus in determining their environmental and social issues. This is to ensure that stakeholders are making well-informed decisions and as well allow improvement in making the society a safer place for individuals. Companies are increasingly adopting integrated reporting and sustainability. Hence it is vital to carry out a study on how they describe materiality in their report. Qualitative analysis techniques, along with the descriptive approach, were performed to analyse the collected data (Saunders et al., 2007).

3.3 Collection of Secondary data

The systematic approach of data collection is considered essential for this study. This study does not utilise a questionnaire because the assumption is that the text in the reports creates a certain reality about materiality, and that is the focus of this study. Therefore, secondary data from the selected companies are collected from their websites and the internet. The annual reports of these companies include their sustainability report, which is the main focus of the study, where materiality on the choice of social and environmental issues chosen are reflected. These reports have been audited and reported by the chosen companies and thereby considered accurate. After reading the reports carefully, key themes such as materiality and sustainability are identified and analysed. Factors related to dimensions that have been developed to answer the research question are also identified and analysed. The advantage of secondary data is that the data has already been collected by someone else; hence resource does not have to be allocated for gathering data. Thus, the researcher can spend more time analysing the data. However, the disadvantage is that the research would not have the opportunity to be part of the data collection process thereby do not know how the data was collected and may not have accesses to data that is helpful to answer the specific research question (Boslaugh, 2007).

3.4 Analysis description

The study aimed to study how companies interpret materiality in their sustainability reports. The comparative analysis of thirteen firms in Sweden in order to conclude builds on Gelmini et al., (2015) as summarised earlier in the literature review. The development of parameters was adjusted for this study to suit the Swedish context. The sustainability reports to be analysed are for the year 2018, four years after the previous study. However, the most relevant parameters of materiality, as highlighted in the literature review have also been identified. The authors in their previous study exempted the financial industries, which makes this study different as the banking sectors is also included in this study.

The process of analysing data was cyclical for this study, at the beginning of extracting empirical material, extracts from the reports on materiality disclosures were categorised into a separate file and sorted by the company name. The main categories were created by the parameters outlined in Table 3 below as an evaluation framework. The categorised data were further analysed, summarised and grouped into subcategories to understand the similarities and differences in the data in a summative way. Then the analysis continued and followed the given parameters to analyse each of the reports in depth until the purpose of conducting the analysis was achieved.

3.5 Data collection procedure

Once the companies were selected, the next step was to extract the information from the sustainability reports of the companies. In order to achieve this, the research has studied each report very carefully, and information was extracted based on the chosen parameters. As earlier mentioned, this is to give a common ground for the analysis as companies report in different ways. These parameters were developed by building on the parameters and requirements used by previous studies and the main requirements of the different frameworks. They have been developed to fit this study since the banking sector has been added to this study. This allows the researcher to have a clear view of the materiality reporting by the selected companies. After information was collected, the data were numerically coded so that it could be presented graphically. Each parameter has been graphically presented as it is easy to understand and provide a decent comparison. The key parameters used for this study are as follows:

Key Parameters
Is the Assessment method present in sustainabilityr reports?
Is it own or adapted?
The practice of stakehlder engagement? (Meeting/AGM)
Is the frequency of stakeholder engagement mentioned?
What is the frequency of engagement per year?
Do they assert business relevance?
Do they assert stakeholder relevance?
Is the metric of value shown?
Reference to shared values?
Is the reporting concise?
Is there a process improvement mechanism in place?

Table 3. Showing key parameters used for the analysis

Table 3 shows the parameters used as the basis for analysing the reports. As mentioned earlier, the parameters were extracted from previous literature and further developed to fit this study. The sustainability reports of all the 13 companies were downloaded from their official websites. The procedure for the extracting information for each parameter is as follows:

Step 1: Assessment method – It was checked whether the assessment method used for the materiality is given in the report or not. The answer was recorded in Yes/No format.

Step 2: Method adapted or owned- It was checked in the report whether what they have written it is their method or the standard method which was developed by someone else. In this case, also the answer was recorded in Yes/No format.

Step 3: Practice of engagement – It was checked whether the company have mentioned about the engagement of the employees/investors or other stakeholders in the assessment. The answer in this section was also recorded in Yes/No format.

Step 4: Given the frequency of engagement- If the engagement of the stakeholders was given, then in the next step it was examined whether the frequency of the engagement was given or not in the materiality assessment method section. Here also the answers were recorded in Yes/No format.

Step 5: Number of frequencies – If the frequency is given, then what is the exact number. This was recorded under this parameter. The type of answer for this parameter is a positive integer.

Step 6: Assert business relevance – From the sustainability report, it was searched whether the materiality process followed by the company is related to their business relevance or not. The answer format for this parameter is also Yes/No.

Step 7: Assert stakeholder relevance – Whether the materiality assessment has taken into consideration the stakeholder relevance or not. It was also extracted the materiality section in the sustainability report. The answer format for this parameter is also Yes/No.

Step 8: Metric of value- It was examined whether the metric was presented in the report or not. The graphical representation of the metric was only taken as Yes, otherwise No.

Step 9: Reference to shared value - Whether the report has mentioned how the society or environment benefitted from the materiality measures taken by the report was recorded in this parameter. The answer recorded was in Yes/No format.

Step 10: Report conciseness - It was evaluated whether the materiality was explained in short and simple form or not. The materiality of fewer than twenty pages was considered as the precise report form.

Step 11: Process improvement mechanism- Whether the report has mentioned at least one process improvement mechanise or not. In this case, also the answer was reported as Yes/No

Furthermore, following the extraction of data from the reports, for each parameter, the answer was taken in the form of Yes or No. The Yes was coded one and the No coded as 0. Then the analysis was conducted to find out what percentage of the firms have “1” and what percentage has “0”. The findings from the analysis are presented in the next chapter.

3.6 Research Quality

This study has adopted a method that seeks to translate and describe the meaning of occurring phenomena in the social world. Qualitative and quantitative approaches are used in this study. The quantitative approach was used to collect information from the sustainability reports in descriptive manner. Once the information was collected, they were coded to numbers so that the quantitative analysis, such as descriptive statistics could be conducted. Hence, carrying out a comparative study of 13 companies from three different sectors is considered appropriate and gives a good overview of how they describe materiality in their reports. Research quality is generally debatable. Nicholas and Catherine, (2000) in their previous work, outlined two criteria to be considered when evaluating quality: validity and relevance. These are considered throughout this study.

Validity can be improved by the researchers' and readers' exercise of judgment and fair dealing (Nicholas and Catherine, 2000). While relevance is achieved when the research is determined relevant and when it either increases confidence or adds knowledge within existing knowledge and when findings can be generalized beyond the setting at which they were generated (Nicholas and Catherine, 2000). However, I have ensured that finding was of high validity by thoroughly examining the reports and previous works of literature. Though this type of research is commonly known to be of low reliability (Collis and Hussy, 2013). The study involves a thorough study of the reports from the selected companies and analyzes the reporting of materiality in their reports. This has not only provided an alternative approach for analysis but also increase awareness related to the non-financial reporting of the companies. In the current scenario, it could be argued that only a few individuals/organizations look for non-financial data in any company.

Generalization during an investigation like this does not allow for an interpretative generalization to the overall population. This study adds to our study of the dimension of examining the reports of significant sectors in the society, which enables a theoretical generalisability that adds to existing literature.

3.7 Limitations of the methodology

Selection of companies could be considered a limitation. The companies selected for the manufacturing sector have different operation. Hence, it could be argued as not companies in the same sector. For example, H&M is a producer of clothes, Vattenfall is a producer of electricity, Volvo AB is a producer of car and Ericsson is a producer of mobile telephones and software applications. The different ways of reporting materiality could be due to different identified issues in respect to their operations and how they impact the society. However, for this study they have been considered as companies in the manufacturing sector.

4. Analysis and Findings

This section analyses the selected thirteen companies from the banking, telecommunication and manufacturing sectors. The identified parameters from previous literature as shown above on table 3 are used in this section to examine the sustainability reports of the companies in order to answer the research questions: how the companies assess and interpret core aspects of materiality in their sustainability report. This helps to understand the industry perspective toward materiality.

4.1 Introduction

Secondary data for analysis were collected from three different industries in Sweden, namely banking, manufacturing, and telecom. These industries are the major industries in Sweden, and the results from these sectors provide an overview. Materiality has been studied based on various factors, and the factors were identified from the previous literature, where scholars used similar factors to study materiality in different countries in different periods. The findings from the collected data have been analyzed and presented in the following section. The analysis began by determining the number of times the word 'materiality' was mentioned in the reports.

Banks	Sector	Frequency of Materiality
Handelsbanken	Banking	14
Nordea	Banking	27
SEB	Banking	8
SWED	Banking	9
Eltel	Telecom	2
Tele2	Telecom	3
Telenor	Telecom	5
Telia	Telecom	6
Ericsson	Manufacturing	8
H&M	Manufacturing	11
Skanska	Manufacturing	7
Vattenfall	Manufacturing	10
Volvo	Manufacturing	2

Table 4. The frequency of the materiality used in the sustainability report of the selected companies

Table 4 show the number of times the word "materiality" was mentioned in the analysed companies sustainability reports. This is a reflection of how much importance firms put emphasis on the concept of materiality when preparing their sustainability reports.

4.2 Reporting of materiality assessment method in sustainability report

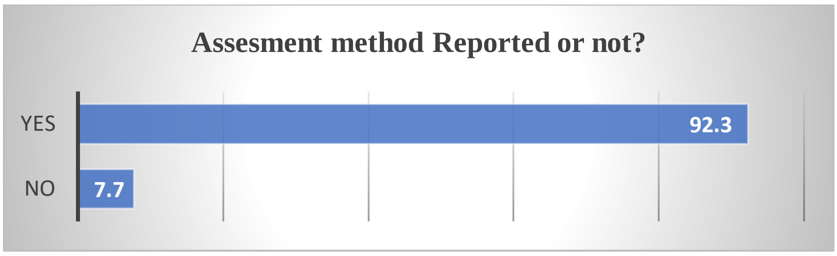

Figure 1.Reporting of materiality assessment method in the report

One of the core aspect considered in the study was whether the companies report the materiality assessment method on their sustainability reports. As the figure 1 shows twelve out of thirteen companies reported their assessment method whereas one company did not show clearly their method of assessment.

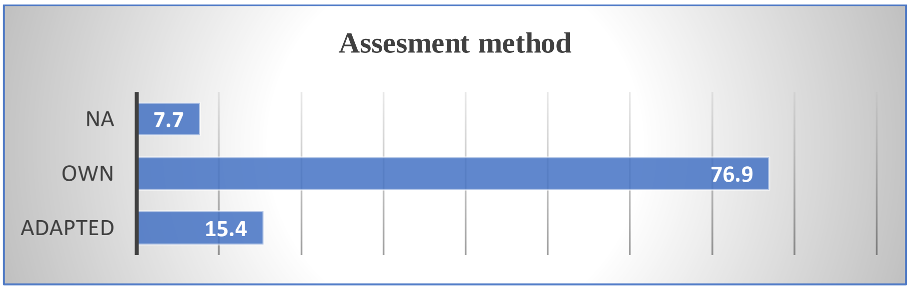

Figure 2. Whether the assessment method is own or adapted

Another important aspect for the study of materiality was to understand whether the assessment method used by the companies for materiality is adapted from somewhere else or they have their method. Based on the data provided on the sustainability reports from the selected companies, it shows that ten out of the thirteen companies developed their method of assessment. Two out of thirteen companies adapted the method designed by someone else, and one company did not mention if they have either adapted or developed their method of assessment even though they claim to have a way of assessing materiality.

4.3 Practice of stakeholder engagement for materiality

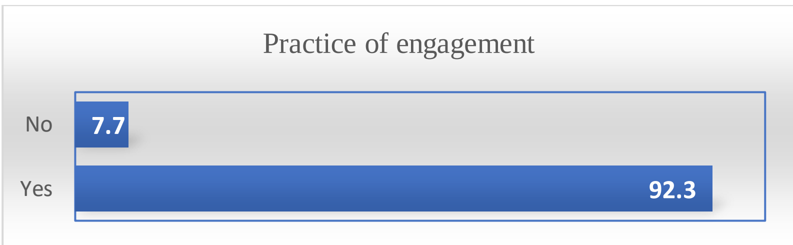

Figure 3. Do they have a practice of stakeholder engagement for materiality?

Engagement of the stakeholders in making material decision is another core aspects. If the stakeholders are not involved regularly and adequately, then the effectiveness of the report may not be robust. Thus, data of the stakeholders engagement practice were collected and analysed. Results show that twelve out of the thirteen companies reported stakeholders engagement practice. The engagement practice can be explained in terms of the interaction between the different group of stakeholders and management of the company in deciding what ESG issues are material.

The method of stakeholders engagement for each company is different. Some companies have annual or bi-annual general meetings with the stakeholders, and some companies conduct surveys based on the qualitative and quantitative questionnaire among the randomly selected members from different groups of stakeholders. Only one out of thirteen companies did not reveal their engagement practice. It is important to note that the company reported materiality but however did note state how they carry out their assessment (Finch, 2005).

4.4 Frequency of Stakeholder Engagement given or not?

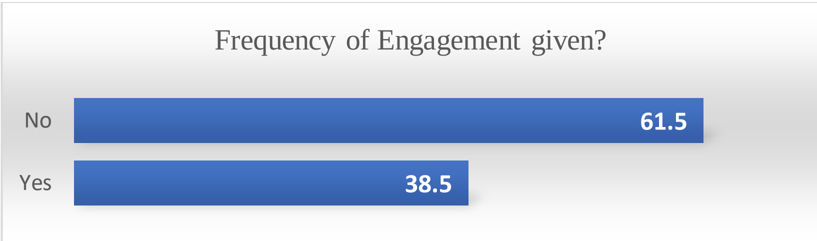

Figure 4. Frequency of stakeholder engagement given or not

Information about the companies' frequency of stakeholders' engagement were also extracted from the report. If the companies are practising the engagement of stakeholders, then what is the frequency of the engagement. It is essential to mention the frequency to know if the engagement practice is done only to fulfil the requirement from the regulatory authority. The result shows that eight out of thirteen of companies did not reveal the frequency of their engagement with stakeholders while five out of thirteen reported the frequency of the stakeholder engagement. However, there may be various reasons for not disclosing the frequency of stakeholder engagement as revealing the number of times they engage in making a material decision may not be compulsory in the respective country, or the frequency is so low that the companies do not want to reveal. (Burchell & Kolb, KPMG, 2011; Zupanovic, 2014). Companies, by revealing such information can increase the trust and quality of report for its users.

4.5 Frequency of the stakeholder engagement

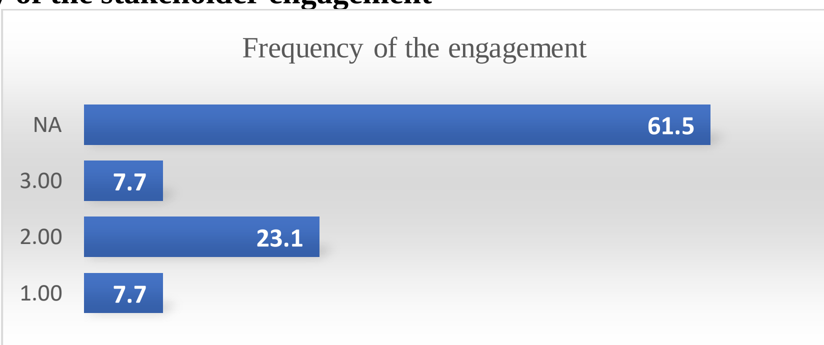

Figure 5. What is the frequency of engagement (if they have any)?

This is the continuation of the previous question where the question is to know whether the companies reveal their frequency or not. Here, the exact frequency was extracted for those companies who reveal their number of stakeholder frequency of engagement. As shown in figure 5 above, three out of thirteen companies hold their stakeholder engagement twice a year, while one out of thirteen companies reported the frequency of stakeholders engagement once and twice yearly. As discussed in the previous section, eight out of thirteen companies did not reveal the frequency of the engagement in their sustainability report.

Moreso, whether the companies assert the business values while reporting the materiality was another point. The information extracted from the selected companies' reports showed that all of the companies assert their business relevance in their report. Companies have reported how they engage in using new technologies and processes to reduce the negative impact their operations have on the environment and society. Findings show that manufacturing firms give more importance to the sustainable environment, whereas telecom and the banking sector-focused more on the social environment.

4.6 Reference to shared value

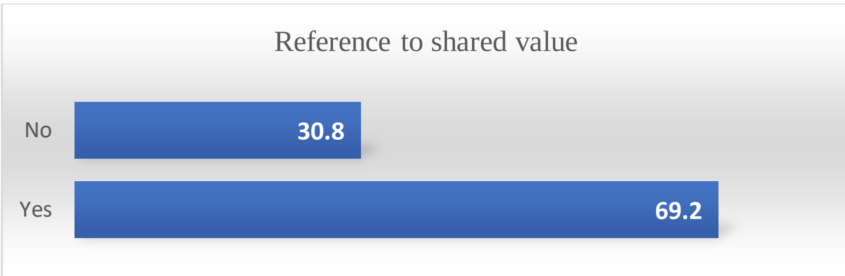

Figure 6. Reference given to the shared value in the materiality report

Another core aspect taken into consideration for this study is whether a reference to the shared value is given in the sustainability report or not. As the figure shows, nine out of thirteen companies give preference to shared value. The shared value shows how the companies are working towards corporate social responsibilities. In most countries, the government makes it compulsory for companies to invest some percentage of their profit towards CSR. Some companies start their initiatives with such fund, and in some cases, companies fund other organizations who are working towards the development of social and environmental initiatives in the society, mostly the NGOs and INGOs.

4.7 Metric of value

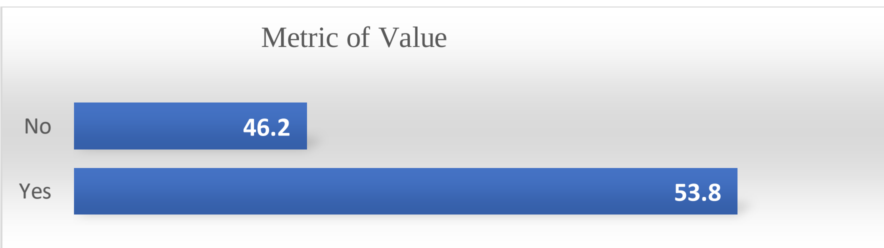

Figure 7. Whether the metric value is given or not

The metric of the value is another important aspect of the sustainability report. The metric value clearly shows the significant sectors or areas where the companies are focusing on sustainability issues. Since one of the main objectives of sustainability is to bring transparency in respect to companies reporting, especially the non-financial information to the general public. The metric value helps the public to clearly understand the priorities of the companies and their contributions towards improving the environment and society. In this context, the findings from this study show that seven out of thirteen companies report the metric of value, while six companies do not report their metrics of value.

4.8 Concise report

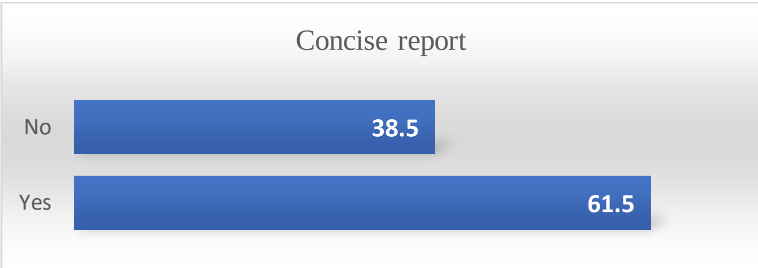

Figure 8. whether the report is concise or not

Conciseness of report for better understanding is part of the requirement stated by the GRI framework. The format and presentation of the reports play an essential role. In some cases, companies publish a very complicated and lengthy report which is not very easy for the layman to understand. In some cases, the aim is to hide crucial information, whereas in other cases, companies give too much information to make it complicated. Hence, it was essential to examine the conciseness of the report. The criteria were based on previous literature review and whether the required information is provided and understandable in twenty pages or less was considered concise (Burchell & Kolb, 2006; Clark & Goodwin, 2010; KPMG, J. J. Zhang, Joglekar, & Verma, 2012). Based on the criteria, it was found that eight out of thirteen companies were concise while five companies were not.

4.9 Process improvement mechanism

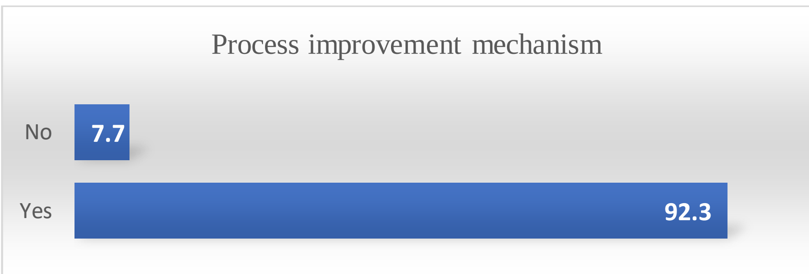

Figure 9. whether process improvement mechanism in place or not

The last parameter taken into consideration for this study is the process improvement mechanism, which is very important for future reporting and continuity, as stated by the EU and GRI frameworks. It was analyzed whether the companies have mentioned anything for improvement in the future or not. The results suggest that twelve out of thirteen companies have mentioned the process improvement mechanism, only one company did not. Different companies have used different ways to present their intention for improvement in the process mechanism. However, the implementation of the same by the companies will only be apparent in the future.

4.10 Sectors Analysis

Besides the overall scenario, the results for the sector-wise analysis have also been presented briefly in the following section. This will provide a sector-wise comparison for the materiality and reporting of the non-financial information.

4.10.1 Banking Sector

For the banking sector, four banks were taken into consideration, and the results show that all the banks have the materiality assessment method presented in the sustainability report. Most of them have their method for assessment. The stakeholder engagement is also in place for most of them.

Dimensions	Handelsbanken	Nordea	SEB	SWED
Industry	Banking	Banking	Banking	Banking
Assessment Method	Yes	Yes	Yes	Yes
Adapted/Owned	Own	Own	Adapted	Own
Practice of engagement	Yes	Yes	No	Yes
Given the frequency of engagement	Yes	No	No	Yes
What is the frequency of engagement?	2	NA	NA	2
Assert business relevance	Yes	Yes	Yes	Yes
Assert stakeholder relevance	Yes	Yes	Yes	Yes
Metric of Value	Yes	No	No	No
Reference to shared values	No	No	Yes	Yes
Reporting concise	Yes	Yes	No	Yes
Process improvement mechanism	Yes	Yes	Yes	Yes

Table 5. Materiality analysis for the banking sector

The table above gives a picture of the banking sector and how they have reported based on the parameters. It shows that they all have the process of assessment in place; for example, the use of matrix and heat map is common. It is not a surprise given that they all report according to the GRI and EU standard. SEB is the only bank with an adapted method of assessment, meaning SEB bank has adapted from other sources. The other three banks have developed their own method of assessment. Furthermore, SEB has also not reported the process and frequency of engagement of stakeholder even though it is mentioned that they engage stakeholders in decision making. Three out of four banks have reported their practice of stakeholder engagement and two out four have reported the frequency of stakeholder engagement yearly. Furthermore, the metric of value by showing clear area by which the companies are involved in meeting social and environmental goals have not been mentioned in reports of three of the banks except for Handelsbanken. However, the reports are concise for three out of four. The process improvement mechanism is mentioned in all the banks' reports (Zupanovic, 2014).

4.10.2 Manufacturing Sector

The manufacturing industry is another industry taken into consideration for this study. There were five companies included in the study.

Dimensions	**Ericsson**	**H&M**	**Skanska**	**Vattenfall**	**Volvo**
Industry	Manufacturing	Manufacturing	Manufacturing	Manufacturing	Manufacturing
Assessment Method	Yes	Yes	Yes	Yes	Yes
Adapted/Owned	Own	Own	Own	Own	Own
Practice of engagement	Yes	Yes	Yes	Yes	Yes
Given the frequency of engagement	No	Yes	No	Yes	No
What is the frequency of engagement?	NA	1	NA	2	NA
Assert business relevance	Yes	Yes	Yes	Yes	Yes
Assert stakeholder relevance	Yes	Yes	Yes	Yes	Yes
Metric of Value	Yes	Yes	No	Yes	Yes
Reference to shared values	Yes	Yes	Yes	Yes	Yes
Reporting concise	Yes	No	Yes	Yes	No
Process improvement mechanism	Yes	Yes	Yes	Yes	Yes

Table 6. Materiality analysis for the manufacturing sector

The table shows how the manufacturing companies have reported based on the parameters. The findings show that all five companies have reported their assessment method for materiality and have developed methods for assessment. The practice of stakeholder engagement is also in place for all five companies; however, only two out of four have reported their frequency of stakeholder engagement. All four companies report that they assert business relevance. The metric value is also in place for most of them, as the manufacturing sector have significant and direct impact on the environment as compared to the other service sectors. The process improvement mechanism is also in place for all the manufacturing companies included in this study showing that they have future plans on improving materiality on sustainability reporting (Pahl-Wostl et al., 2008; Zamfir and Corbos, 2015).

4.10.3 Telecom Sector

The last sector is the telecom sector where the data for the four companies was collected.

Dimensions	**Eltel**	**Tele2**	**Telenor**	**Telia**
Industry	Telecom	Telecom	Telecom	Telecom
Assessment Method	No	Yes	Yes	Yes
Adapted/Owned	NA	Adapted	Yes	Own
Practice of Engagement	Yes	Yes	Yes	Yes
Given the frequency of engagement	No	Yes	No	No
What is the frequency of engagement?	NA	3	NA	NA
Assert business relevance	Yes	Yes	Yes	Yes
Assert stakeholder relevance	Yes	Yes	Yes	Yes
Metric of Value	No	No	Yes	No
Reference to shared values	No	Yes	Yes	No
Reporting concise	No	Yes	No	Yes
Process improvement mechanism	No	Yes	Yes	Yes

Table 7. Materiality analysis for the telecom sector

Findings suggest that three companies out of four have reported the assessment method. One which is Telenor AB has adopted their own method of assessment while tele2 and Telenor have adapted from other sources for example GRI matrix assessment method. There exits the practice of engagement for all the four companies. Only Tele 2 AB has reported the frequency of its stakeholder engagement of three times per year. The metric of value is presented only by one company out of four. Concerning the conciseness and the reporting of the information, only two out of four of the companies have a concise report in the telecom sector. The process improvement mechanism is in place for the majority of the companies. In terms of the process of improvement mechanism in place three out of four companies have shown that they have plans for future improvement on materiality reporting on sustainability.

5. Discussion

In the discussion, discoveries from the different data evaluated in the analysis is discussed in relation to the aim of the study.

5.1 Materiality as defined by the companies

This study reflects that the Swedish companies are quite close to meeting the requirements of reporting materiality according to the presentation of their 2018 sustainability reports. The companies studied have reported materiality assessment method in detail and have involved the core aspects of materiality in their decision making. Furthermore, stakeholders are included in every stage of deciding material issues. All thirteen companies assert business relevance and the importance of materiality. However, there is room for improvements since few companies have missing information and are yet to report transparently and concisely. For example, two out of four of the telecommunication companies have not reported concisely as well as one out of four from the banking sector and two out of five of the manufacturing companies. This is in line with Gelmini et al. (2015) were studies shows that reporting materiality transparently and concisely is one of the significant issues affecting the quality of non-financial reports.

The finding shows three different definitions of materiality in the analysed reports: 'GRI definition', 'importance to stakeholders and its importance to the business', 'importance to stakeholders and its impact on business operations'. However, since most of the companies adopt the GRI guideline, it was expected that they define materiality according to GRI definition that "sustainability report should cover aspects that reflect the businesses important social, economic and environmental impacts or substantively influence the assessments and choices of stakeholders" (GRI, 2013b, p. 17). This shows that the companies seem to define materiality according to EU directive and IR framework emphasising 'the importance to stakeholders and impact on business. The implication of these different definitions of materiality could lead to lack of comparability, unconcise reporting and conflict of interpretation. This is in line with the argument as illustrated in table 1 that complex definition leads to several challenges in reporting materiality. One reason for this could be that the EU directive expresses too broad definitions of materiality and conflicting interpretation thereby leaving materiality judgement in the hand of the companies.

All thirteen companies have reported their communication methods which is mostly through meetings, direct dialogue, workshops and conferences. These processes have led the country to become one of the most sustainable countries in the world SCA, (2019). Reporting in form of text, numeric, flowcharts and visuals for clearer understanding by readers on the different steps have been provided especially in the manufacturing and banking industries.

In the process of analysis, every parameter extracted from the literature review as shown in table 3 have been investigated in detail, and I believe it could be conveniently used to describe materiality as well as to compare how the companies have reported materiality issues. The parameters used for this study consists of some of the most pertinent aspects of determining materiality as proposed by the frameworks such as materiality assessment, comparability, conciseness, consistency and stakeholder engagement in decision making.

5.2 Common material issues identified

The banking sector identify and prioritise mainly social issues for example, anti-money laundry, credit policy, green products, IT securities, responsible lending, social engagement and human right issues. The manufacturing sector, as producers focus more on environmental issues such as climate control, GHG emissions, recycling materials, material sourcing and supply. While the telecommunication sector has mainly identified privacy and cyber security, mobile phones and health, climate risk environment, digital inclusion to mention a few. They have all clearly listed the identified areas with details of their engagement process in a comprehensive way. Through metrics, tables and charts most of the companies have explained how they manage, monitor these topics, their results and future target.

Although the companies report in different ways, they have reported some common aspects of material topics such as human rights, employee diversity, inclusion, health and safety, emissions, supply chain, ethics and anticorruption, training and education, child labour and many other social issues have been outlined in their various reports. The difference in identification of risk could be as a result of different operation and stakeholder concerns. Also, most of the common topics identified have been in accordance to the GRI recommended topics for companies (GRI, 2013).

5.3 Method of Assessment

GRI proffers a four-step guideline for assessing material issues consisting of identification, prioritasiation, validation and review and stresses the involvements of stakeholders in all these steps. Organisations by following these steps ensures transparency and completeness in identified material issues. Twelve out of the companies have reported their assessment methods for defining what is materiality in detail. Some companies report more than one method of assessment including materiality matrix as suggested by GRI. This is an indication that the companies in Sweden show a substantial level of transparency in reporting material issues. Furthermore, all five companies in the manufacturing sector, three out of the four from the banking sector and one from the telecom sector have developed their own specific method of assessment to best fit their operation. This reflects a great commitment by the companies in addressing materiality. In the banking industry for instance, Nordea bank uses a materiality pyramid model structured into three layers that represent three voices in total. The bottom layer is the voice of business, which is very important to ensure trust and its subsequent building in the long run in order to be viable. This layer encompasses things that the organisation must carry in order to ensure its operations as a going concern. The next layer is the voice of stakeholders which include topics that are considered important for a sustainable future and are detrimental to the overall acceptance of the organisation in this transition phase to a sustainable future. The topmost layer is the voice of society, which is moulded by the larger community and driven via macro factors. Telenor in the telecom sector uses the 2x2 matrix, the two key criteria's - one being the significance of Economic, Environmental & Social impacts and the other being influence on stakeholder assessment & decisions. These are measures taken by the companies to promote materiality and sustainability.

Furthermore, the banking sector developing their own method of assessment can be accepted, considering the exceptional cases of risk management, financial issues as well as sensitive areas at which they impact the economy. Hence, developing a more sector-specific method of materiality assessment would be considered a better approach. More so, one advantage of having a standard assessment method is that it allows for a precise comparison among the companies in the same sector which is one of the aims of reporting materiality in the sustainability reports as described by the various frameworks highlighted earlier. Companies by reporting in a manner that could be compared among other firms is one of the most discussed methods of achieving a quality non-financial report. This way, stakeholders can conveniently read and compare the social and environmental activities of different companies. Hence, make sound financial and investment decisions. This goes to show that the use of different methods and variables by companies, would be difficult for stakeholders to track and compare the reports in line with Gelmini et al. (2015) that with different methods of assessment comparability in the sustainability reports of companies is difficult to achieve. The most commonly used method of assessment, however, includes materiality matrix, materiality pyramid for prioritising the identified material topics of importance, impact assessment and heat map.

5.4 Stakeholder engagement in materiality analysis

Stakeholders' engagement in deciding material issues for companies is considered to be one of the most appropriate means of identifying material issues. Therefore, companies involve different groups of stakeholders in the process of a materiality analysis to make material decisions. The study shows that most of the companies have engaged stakeholders when making such decisions. This confirms Gelmini et al. (2015) argument of the same in their findings.

All thirteen companies studied have shown shareholders' involvement in determining material issues. However, the proportion of the firms providing the details about the frequency of the engagement is less with regards the periods of stakeholder engagements except for the banking sector which seems to be twice a year in most cases. Stakeholders involvement in the decision making is mentioned both in the various frameworks and international guidelines as a way for determining materiality. The smaller number of frequencies of the engagement may indicate that firms are only fulfilling the regulatory requirement and try to be within the compliance status. The most common methods used for stakeholder engagement includes surveys, town halls, annual general meeting, opinion poll, taking feedbacks and suggestion from the stakeholders, as well as meeting with a representative of the stakeholders. Another very important discovery is that all through the reports none of the companies have stated the challenges in selecting important issues with the stakeholders while in reality there exits conflicting interest within the different group of stakeholders.

The findings from the other aspects of the materiality examined indicate that most of the companies give preference to the shared value with social expectation and includes the significant steps taken by the companies towards sustainability. The previous study has shown that companies that provide and engage in shared value help not only the society but also force other companies to do so which generates a positive externality (Garcia, et al., 2018).

5.5 Metric of Value

The metric of the value was another important parameter of the materiality and findings from the study has shown that seven out of thirteen companies include the metric value in their reports. The metric value clearly shows the focused area of the companies in terms of sustainability. Therefore, it can be concluded that a firm that has a clear metric of value has a definitive plan and is seriously working towards bringing a change in the society. On the other hand, there may be various reasons for not presenting the metric of value. It may be because the company do not have a definitive plan towards sustainability or that the company decided to restrict themselves only towards a few areas. Garcia et al. (2018) and Gelmini, et al. (2015) have also argued similar points in terms of metric of value and the company's efforts towards sustainability. The authors have stated the importance of stating the metric and measurement of values for readers of the report to have a clear understanding of what has been done and future expectations.

5.6 Conciseness and comparability

Furthermore, in terms of conciseness, the GRI, IR and EU directive have emphasised the significance of concise reporting. However, none of them have recommended any general or specific number of pages for non-financial reporting. Researchers have also suggested different forms of conciseness. For example, Gelmini, et al. (2015) depicted that the companies still need great attention in reporting in terms of conciseness, comparability and consistency. Pistoni et al., (2018) suggested up to fifty pages as concise including both financial and non-financial report. In this study of only sustainability reports, up to twenty pages is considered concise and analysis shows eight out of thirteen companies have concise reports. This aspect needs further improvement as many researchers and standards relates materiality to having a concise and comparative report. Hence, readers can have clear information about the sustainability issues and the measures taken by the companies.

6. Conclusion

The conclusion presents the main finding in form of answers to the research questions. How do organisations describe core aspects of materiality in their sustainability report? and How are companies reporting their materiality assessment? In addition, the contributions of this study to the research area is presented and suggestions for future research.

The aim of the research is to study the idea of materiality by examining how Swedish companies describe and assess materiality in their sustainability reports. The research, therefore, should shed more light on how materiality is being interpreted by companies in their sustainability reports and its potential to increase stakeholder accountability. The study builds on previous research work by Gelmini et al., (2015). The focus is on the Swedish company which makes it country specific compared to inter – country comparism as conducted by the authors.

In the context of the traditional financial accounting, the principle of materiality entails that the business organisation report all financial information that significantly impacts on shareholders who use these reports for their investment decision making. This function of selecting and prioritising significant issues over insignificant ones has drawn practitioners and researchers to adopt and generalise the materiality concept into the sustainability accounting context to solve the problem of overloaded information commonly associated with many sustainability issues and an extensive range of external interested groups. Several frameworks have defined materiality in the context of sustainability and provided guidelines. These definitions have been argued by several researchers to be complex hence may be problematic for companies (Gelmini et al., 2015; Baumüller et al., 2018; Yohe and Lasco, 2007; Thomas, 2016). Thus, organisations may find themselves struggling with applying this concept as measuring the "impact an organisation" has on its society, environment and economy may be difficult (Yohe and Lasco, 2007; Thomas, 2016).

This study has reviewed definitions of materiality in the sustainability accounting context as defined by three commonly used frameworks. Three main sectors were considered (manufacturing, banking and telecommunication) and the report of 13 Swedish companies have been analysed to have an overview of how organisations describe core aspects of materiality in their report and how companies report their materiality assessment.

Materiality assessment is reflected as vital in all the reports examined and finding shows that companies have different ways of accessing materiality. Most firms have developed their method of assessment while others have adapted, as shown earlier in the analysis and discussion. Most common methods involve stakeholders and prioritisation using materiality matrix, materiality pyramid and heat map. By studying these three sectors, findings show that they all have a different approach to defining and describing core aspects of materiality, which is quite understanding considering their different operations. However, the most commonly discussed aspects in their report in terms of identifying material issues include shareholders selection and engagements, the processes of engagements, materiality analysis, materiality assessment method, prioritisation of selected materiality issues, shared value, value creation and metrics of value. These are considered the main aspects when defining materiality (GRI, 2018). The findings also show that most of the companies report beyond just complying with the regulation and frameworks by providing useful information both in words and numbers. This is a good sign that shows the companies are to most extend interested in reporting materiality. The banking and manufacturing sectors have reported more extensively, including all the relevant issues in the sector. There is also a clear presentation on how the different groups of stakeholders are divided from internal to external members involving all stakeholders in the decision-making process. Beske et al., (2019), argue that missing explanations about specific stakeholder groups as well as identification of stakeholders and their topics makes it unclear how companies relate materiality with a stakeholder group and why it is of importance. The reports have shown the breakdown of different stakeholders (internal and external) and how they are involved in materiality decision making.

Furthermore, the sustainability report shows that the banking sectors are members of sustainability indexes such as the Dow Jones sustainability index, FTSE4Good ESG, Fair Finance Guide, to mention but a few. They are also part of sustainability management boards. These are monitoring measures to ensure their sustainability reporting is following the demands of stakeholders. Another common factor in the reports of the banking and manufacturing sectors is that all the nine companies selected and analysed have shown plans that reflects continuity in becoming better in promoting sustainability issues.

With regard to shared value all five companies from the manufacturing sector and all four companies from the banking sector have reported their shared value process except for the telecommunication companies where two out of four reported their shared value process. The overall result show high level of compliance to the requirement of the GRI framework even though there is room for improvement in the telecommunication sector. Furthermore, concerning metrics of value only six out of thirteen companies have shown the process of their involvement by presenting issues that have been identified from previous years - how much work has been done and achieved over the years as well as their plans and targets for the next coming years.

It can be concluded based on the analysis that the Swedish companies have shown a high level of commitment and involvement in identifying material issues in sustainability accounting reporting, as well as given explicit or implicit definition of the materiality analysis, which gives insights into whether a company differentiated between internal and external stakeholders. However, there is scope for improvement as evaluating social and environmental impact in the society is considered very challenging (Zahou, 2017). Similarly, the investment made by firms to create value in the society and environment is not very clear for most of the firms. Also, the efforts made by the firms in terms of materiality is another critical aspect. As compared to financial reporting, the investment in materiality related areas is still minimal for the majority of the firms.

The sector-wise comparison indicates that there is a difference in terms of materiality. However, one difference is in terms of metric value; the majority of the companies in the banking sector do not have a metric of value. In contrast, the firms in the manufacturing sector have presented their metric of values. This could be due to the nature of their business as the banking sector as a service provider while the manufacturing industry is into the production of materials. The service sector has less impact on sustainability as compared to manufacturing sectors

6.1 Contribution

There have been few studies on materiality assessment and how firms report on materiality issues in their sustainability reports. The finding from this study contributes to the field of accounting sustainability, through its finding it could be concluded that companies report and assess materiality in different ways based on its operation even though they follow similar standards and guidelines. It has been observed that the firms in different sectors have different contributions when it comes to sustainability. For example, the manufacturing firms produce more waste which is very dangerous for the environment as compared to the service sectors where there is no actual production. Hence, sustainability topics issues identified differs. This study recommends a sector-specific standard and guidelines in order to achieve comparability of reports in different sectors. Several studies have looked at companies from different countries, but this study focuses on companies in Sweden; hence the findings are more country specific (Gelmini et al., 2015; Puriola et al., 2017).

This study analysed different sectors and their core aspects of materiality assessment, which is helpful for companies in these sectors that are interested in improving their sustainability approach. Previous research has been focused on the service sectors. In contrast, this study has included the banks and developed parameters that can be used by future researcher to access materiality in reports. Most studies on sustainability have either evaluated or analyzed the impact of sustainability on the environment, society and the economy. There are very few studies which have highlighted the challenges faced by the companies while adhering to sustainability compliance (Guthrie and Abeysekera, 2006; Jones et al., 2016). This study further recommends companies to be part of the monitoring sustainability index frameworks as the banks have shown how essential it can be in monitoring the sustainability activities of the companies.

6.2 Recommendation for future studies

This study recommends the need for further studies in the field of sustainability accounting on how to address the diverse interest of shareholders in assessing materiality and which group of shareholders should be involved in the decision making? Finally, further research on how to align materiality with enterprise risk management would enhance the concept of materiality.

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