MATERIALITY AS A SUSTAINABILITY ACCOUNTING CONCEPT: THREE DEFINITIONAL STREAMS AND CRITIQUES

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Abstract

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This paper contributes to accountancy literature with a systematic review of how materiality is defined as a sustainability accounting concept. It patterns prior definitional works into three streams (the simple synonym, the shareholder-based, and the stakeholder-based), and then critiques each of them. Compared to the other two streams, the stakeholder-based stream, which has been adopted as the mainstream in sustainability accounting community, is justified as to offer a more holistic and long-term scope on judging materiality of sustainability issues. But the current state of this stakeholder-based stream is problematic in failing to resolve the complexity of the stakeholder environment where business organizations operate. Accordingly, this paper proposes three critical questions: (1) all stakeholders or only primary stakeholders should be taken into account of materiality assessment; (2) how to address the diversity of stakeholder interests in the framework of materiality; and (3) how to apply the materiality concept in informal reporting practices. These critical questions highlight potentials of advancing the sustainability accounting conceptualization of materiality in the track of the stakeholder-based stream.

Keywords: Materiality, Sustainability Accounting, Sustainability Reporting, Stakeholder, Shareholder

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1. INTRODUCTION

Well established in literature is the corporate responsibility view that the business organizations must account for its performance on sustainable development (Gray, 2001; Lamberton, 2005). Nevertheless, a challenge for the organizations to prepare sustainability reports is the need to clearly and concisely provide report users with comprehensive data covering a wide range of economic, social and environmental aspects (Zadek & Merme, 2003). There emerges a remarkable consequential phenomenon in sustainability reporting; for organizations, a great amount of time, cost, and resource have been invested in proceeding the booming data on sustainability performance, however, the communicative effectiveness of corporate sustainability reports remains little. As AccountAbility (2006, p.25) highlights, on the one hand, sustainability managers are often told by report users that the reports are too long for them to read in details; but on the other hand, these report users also demand more and more information, when asked what are missing.

The information challenge provokes a call for the application of the materiality concept (Zadek & Merme, 2003). As a basic concept in financial accounting, materiality is defined as to the magnitude of a financial item that would generate significant influence on shareholders who use financial statements to make economic decisions (FASB[7], 1980; GAO[8], 2010; SEC[9], 1999). A chief function of materiality is to identify, select and report those financial items which are useful, relevant and significant from what is trivial. Then the report users can be informed of the focused areas and topics closely associated with their decision making. Simply put, materiality is used as a filter for a *sea of data* that the reporting entities

[7] FASB: Financial Accounting Standards Board.
[8] GAO: Government Accountability Office.
[9] SEC: Securities and Exchange Commission.

encounter, assisting these entities in preparing more effective corporate sustainability reports, in which significant issues are retained, and the trivial issues are excluded.

This 'data-filter' function inherent to materiality promotes the materiality concept to generalize into the sustainability reporting practices. As sustainability accounting researchers suggest, materiality differentiates between what matters to those using the sustainability reports, and what is insignificant to them, thereby improving the report quality for the audience free from the voluminous data associated with the corporate sustainability performance (Zadek & Merme, 2003; Murninghan, 2013).

However, it is argued that the financial accounting conception of materiality fails to addresses the requirements of sustainability reporting, as the scope of reports has been extended to cover non-financial issues and non-financial audience (Zadek & Merme, 2003; Environment & Business, 2007). This leads to efforts of sustainability accounting researchers and standards setting institutions in redefining materiality to the new accounting context pertaining to corporate sustainability.

In this paper, extant definitional works of the materiality of sustainability issues are patterned into three streams. Critiques of each definitional stream lead towards three critical questions asked to advance the sustainability accounting concept of materiality.

2. GENERALIZING MATERIALITY FROM THE FINANCIAL CONTEXT TO THE SUSTAINABILITY CONTEXT

Materiality is a basic accounting concept (Frishkoff, 1970; Hicks, 1964; Edgley, 2014), referred to the significance of an accounting item for decision-making purpose. Hicks (1964) states, the elementary proposition to materiality is whether an item is so significant that it needs to be resolved. And Jeffries (1981) and Edgley (2014) associate materiality as to an index of time, cost and resource allocated to an issue. This basic meaning of materiality is addressed in financial accounting standards as a requirement for the organization to take reporting action to financial issues significance to shareholders (APB[10], 1995; FASB, 1980; IASC[11], 1999; SEC, 1999). For example, FASB (1980, SFAC No.2) defines materiality as:

The magnitude of an omission or misstatement of accounting information that, in light of surrounding circumstances, makes it probable that the judgment of a reasonable person relying on the information would have been changed or influenced by the omission or misstatement.

Similarly, another institutional definition is given by IASC (1999):

Information is material if its omission or misstatement could influence the economic decisions of users taken on the basis of the financial statement. Materiality depends on the size of the item or error judged in the particular circumstances of its omission or misstatement.

However, the traditional financial conception of materiality focusing reporting contents on the short-term performance and risks on financial aspects cannot fulfil the basic requirements of sustainability reports. Underpinning the reason for the organizations to report their sustainability performance is the assumption that those parties who use the reports take sustainability issues into account (Deegan & Rankin, 1997; Flynn, 2009). Therefore, in sustainability reporting practices, what are material for include not only financial issues but also non-financial issues concerning different report users, as Deegan and Rankin (1997) assert the possibility of environmental matters being material to report users. That is, coverage of the material topics and indicators should be extended to economic, environmental and social aspects, hereby enabling report users to assess the reporting organization's overall performance. From this perspective, Zadek and Merme (2003, p.11) criticize financial materiality conception as "an overly narrow approach", where only the financial information significant to investors is included in corporate reports.

Since the pioneering work of Deegan and Rankin (1997) in discussing the materiality of environmental information, continuous efforts and experimentations have been made by researchers and practitioners to seek inhabitation of materiality in the sustainability accounting context. The definitional works of sustainability accounting materiality are patterned into three streams.

- Simple synonym stream that refers *materiality* to simple and direct synonymous terms. The basic materiality logic in this stream concerns action taken to what matters to 'someone' unspecified.
- Shareholder-based stream resting on the financial value of nonfinancial information to investors. The basic materiality logic in this steam concerns action taken to what matter to 'shareholders'.
- Stakeholder-based stream identifying information needs of stakeholders, which is the mainstream of defining materiality in sustainability accounting standards and studies. The basic materiality logic in this stream concerns action taken to what matter to 'stakeholders'.

3. THE SIMPLE SYNONYM STREAM AND CRITIQUE

In explaining what is *materiality* of a sustainability issue, some researchers do not clarify *to whom the issue is material*, but simply relate or even equate the concept of materiality to the terms including *importance* (Deegan & Rankin, 1997), *usefulness* (Deegan & Rankin, 1997), or *relevance* (Casey, 2006).

One example of this stream is a pioneering study on non-financial information materiality authored by Deegan and Rankin (1997). Their study avoids a formal definitional work of *materiality*, but simply interprets it as *importance* and *usefulness*, where participating report users in the survey were asked whether the environmental information is important to their decision-making and whether such information is useful. Furthermore, the participating report users in the survey include only financial providers and academics, without clearly indicating whether a wide range of non-financial stakeholders should be included within the scope of the materiality of environmental issues.

Casey (2006) attributes *materiality* as one criterion for assessing sustainability report content,

[10] APB: Auditing Practices Board.
[11] IASC: International Accounting Standards Committee.

referring it to *relevance*, and explains material things as those items that *matter most* on sustainability impacts and major risks. In this explanation in a simple reference of materiality to *relevance* and *matter most*, the scope of *to whom sustainability issues are significant* remains untouched.

Although in this definitional stream a direct and simple statement to interpret the meaning of *materiality of non-financial issues* is provided, the oversimplification of the interpretation leads to incompleteness and vagueness of materiality redefinition, failing to capture the complexity of materiality in sustainability accounting contexts.

The simple synonym stream is problematic, in that towards whom the issues are significant is not explicated. A mere relative connotation of a synonymous term is insufficient to interpret materiality of sustainability issues. For example, although the term *importance* implies being able to generate a high level of influence, the terms *importance* and *materiality* cannot be conflated in some cases. For example, the position of the report preparer is important, but this position may not be material to stakeholders/shareholders, who would not care about whether the company has this position, nor whoever takes this position. Similarly, *usefulness* is not equal to *materiality*, because not all useful data are material. Some data are used to enhance or furnish the description of a material issue. But these data may not be material, given the basic description of the material issue is established and perceived by report users. Thus, these synonymous terms to materiality are arbitrary, needing further explanation.

4. THE SHAREHOLDER-BASED STREAM AND CRITIQUE

The shareholder-based stream of defining materiality focuses on assessing financial impacts of non-financial issues on shareholders or investors. In this definitional stream, the assessment criterion of materiality posits on financial perspective, although the reporting scope is extended into non-financial perspectives. The materiality assessment of environmental and social issues is operationalized in terms of *environmental cost*, *legislation fine*, *environmental liabilities*, and so on. These environmental and social issues are allocated into appropriate accounts and journals in accordance with relevant financial guidelines. Simply put, some nonfinancial issues are financially material and should be identified and emphasized. For example, NRTEE[12] (2007) conducted a research into the concept of *materiality* by studying how environmental and social disclosure data impact on investors' decisions.

This finance-oriented approach to defining materiality of social and environmental issues is followed by some security authorities from different countries. In the United States, SEC requires the listed companies to use the section of *Management's Discussion and Analysis* of the annual corporate report to detail current conditions including non-financial events which may generate material impacts on a company's financial performance. Canadian security authorities require disclosure of non-financial information which is deemed to be financially material. In Ontario, the Securities Act requires the timely reporting of information on any 'material change' for a company. The Toronto Stock Exchange (TSX) (2003) has established disclosure guidelines in line with the Securities Act (Ontario), with a definition of 'material information' broader than 'material change'; in particular, the TSX[13] definition includes information concerning rumors and speculation that may have a financial impact on the company.

ACCA[14] (2007) exemplifies how to use financial accounting guidelines to assess and disclose environmental issues that generate material impacts. One case is that an oil company purchased its major competitor, and found that it needed to deal with the environmental impact of the laying of pipeline established by the competitor before this purchase. There was no legal obligation to carry out the work, but the company felt that it would be a cost of around $150 million if the farmland impacted were restored. In the view of ACCA, the financial accounting standard "Provisions, contingent liabilities and contingent assets" (IAS 37) was relevant to this environmental issue. Provisions for environmental liabilities should be recognized where there is a legal or constructive obligation to rectify environmental damage or perform restorative work. The mere existence of the restorative work does not give rise to an obligation and there is no legal obligation. However, it could be argued that there is a constructive obligation arising from the company's approach in previous years, which may have given rise to an expectation that the work would be carried out. If this is the case, a provision of $150 million would be required in the financial statement. In addition, this provision and specific examples of restoration of land could be included in the environmental report (ACCA, 2007, p.34 and p.104). The major consideration here focuses on whether to disclose or not and how to disclose the possible environmental liability, in the light of relevant financial reporting guidelines, which is IAS 37 in this case.

Shareholder-based thinking that focuses on valuing financial impacts of sustainability issues, is rooted in an economic-core view, which Birkin (2000) calls *environmental economics in accountancy*, or which Hayward (1994) defines as *reformist environmentalism*. In the economic-core view, environmental impacts are considered as part of the whole economic development (see, e.g., Kneese & Russell, 1987; Pearce, 2002; Stavins, 2008). The foundation of this accountancy view has been built on a list of works including Pearce's (2002) *green economics*, Ditz, Ranganathan and Banks's (1995) *green ledger*, and Owen's (1992) *green reporting*. And inherent to this economic-core accountancy are sustainability accounting tools such as *Life Cycle Assessment* (ISO 14040), *Total Cost Assessment* (Gray 1993*), eco-Cost-benefit Analysis* (Gray 1993; 2001), and *Eco-Efficiency* (Schaltergger, 1992). These works are confined to an economic scope for evaluating environmental and social issues in monetary terms.

Gray (1993) comments, if the strict confinement of traditional accounting is imposed on accountants when entering the environmental reporting and accounting field, then "a very narrow, tamed, safe and controllable conception of

[12] NRTEE: National Round Table on the Environment and the Economy.

[13] TSX: Toronto Stock Exchange.

[14] ACCA: Association of Chartered Certified Accountants.

environment (is expected to be) created by the accountants of the environment" (Gray, 1993, p.232). From this point of view, shareholder-based definitions of materiality produce opportunities of processing sustainability issues in a way which accountants are familiar with. However, this way is narrow and limited as to where social and environmental impacts are taken as part of the financial impact, valued in monetary terms, and are confined into existing financial accounting and reporting frameworks.

The economic-core view is problematic and thus criticized. In pursuance of economic goals, the economic-core view may override the sensitivity of ecological relationships of business. It leads to a dangerous situation, where there are no adequate operating limits to resource consumption for the growth or expansion of economic benefits, because of the constraints of the ecosystem (Birkin, 2000).

The existence and development of a business depend not only on its financial relationships with investors but also on the relationships to a wide range of stakeholders concerning the environmental and social aspects. Issues with significant social and environmental impacts on stakeholders are directly substantively influencing the organization, and thus material to it. But the shareholder-based way of defining materiality fails to capture such directness of nonfinancial impacts; instead, it underestimates the materiality of some sustainability issues, whose financial value may be insignificant although they generate strong impacts on the environment and society.

Therefore, neither the synonym nor the shareholder-based definitional stream commits to the purpose of sustainability reports as for the organization to communicate the report users as a wide range of stakeholders. The critiques of the first two definitional streams mentioned above lead to an emphasis on the third stream, which is based on stakeholders and has been adopted as the mainstream of defining materiality in sustainability accounting community (AA1000APS[15], 2008; AccountAbility, 2006; GRI[16] G3, 2000-2011; IIRC[17], 2013; Murninghan, 2013; Zadek & Merme, 2003).

5. THE STAKEHOLDER-BASED STREAM

The stakeholder-based materiality definitional stream is the mainstream in sustainability accounting literature and practice, adopted by influential sustainability accounting standards including GRI (G3), GRI (G4), AA1000APS (2008) and IIRC (2013). Different from the shareholder-based stream where the capital providers remain the dominant concerns for materiality determination, sustainability accounting materiality identifies the needs of a wide range of stakeholders for the conception of materiality. Stakeholders are referred as to those persons or humanistic institutions external to the organization, which are impacted by or are able to impact on the performance of the organization (Clarkson, 1995; Freeman, 1984). Certainly, stakeholders include not only shareholders, but also employees, suppliers, governments, customers, local communities, media agencies, and industrial association members (Freeman, 1984; Frooman, 1999).

[15] AA1000APS: AA1000 AccountAbility Principles Standard.
[16] GRI: Global Reporting Initiatives.
[17] IIRC: International Integrated Reporting Council.

GRI G3 (2000-2011) defines materiality in the reporting context:

Material topics for a reporting organization should include those topics that have a direct or indirect impact on an organization's ability to create, preserve or erode economic, environmental and social value for itself, its stakeholders and society at large.

The GRI sustainability reporting framework refers to *material topics* as those that:

Inform assessments or decision-making by stakeholders, or support engagement with stakeholders that can result in actions that would significantly influence performance or address key topics of stakeholder concern.

GRI G4 (2013, p.17) defines the principle of materiality as follows:

The report should cover aspects that reflect the organization's significant economic, environmental and social impacts; or substantively influence the assessments and decisions of stakeholders.

And it (2013, p.17) further explains that:

Organizations are faced with a wide range of topics on which they could report. Relevant topics are those that may reasonably be considered important for reflecting the organization's economic, environmental and social impacts, or influencing the decisions of stakeholders. And therefore, potentially merit inclusion in the report.

AA 1000 Accountability Principles Standard (2008), which is developed from AA 1000 Accountability Framework Standard (1999), is to provide organizations with a set of principles to "frame and structure the way in which they understand, govern, administer, implement, evaluate and communicate their accountability" (AA1000 APS, 2008, p.8). In this standard, materiality is regarded as one of "the founding principles to support the realization of accountability", referred to "the most relevant and significant issues for an organization and its stakeholders" (p.8). Accordingly, AA 1000 APS (2008, p.12) defines materiality based on *influence on stakeholders* and *influence on the organization*:

Materiality is determining the relevance and significance of an issue to an organization and its stakeholders [and] a material issue is an issue that will influence the decisions, actions, and performance of an organization or its stakeholders.

The International Integrated Reporting Council (IIRC) (2013) releases an integrated reporting framework, in which materiality is defined from the perspective of *value creation*, expressed in the excerpts following:

An integrated report should disclose information about matters that substantively affect the organization's ability to create value over the short, medium and long term (IIRC, 2013, p.5 and p.18).

Furthermore, IIRC (2013) associate material matters or issues with stakeholders, in the course of value creation:

A matter is material if it could substantively affect the organization's ability to create value in the short, medium or long term (IIRC 2013, p.33).

And the so-called values are not created by or within an organization alone, [but] created through relationships with stakeholders (IIRC 2013, p.18).

AccountAbility (2006, p.31) provides the following definition:

Material issues are those things that could make a major difference to an organization's performance,

[and] material information provides the basis for stakeholders and management to make sound judgments about the thing that matter to them, and take actions that influence the organization's performance.

This definition considers materiality as the extent to which an organization's performance could be changed by the sustainability issues, with an explication that such change is from stakeholders' judgment based on these issues.

The stakeholder-based conception of materiality is associated with the belief well established in stakeholder theory that stakeholders are holding different resources on which the organizations rely to achieve survival and development in the business world, and hence the business must give due regard to the interests of these stakeholders (Freeman, 1984). In this regard, organizations have long managed the information flow to the customers, employees, and their communities they operate in and to the public at large, trying to establish a positive link between a favourable business image and superior business performance (Schmidt & Pan, 1994). Materiality is highlighted as a useful tool to enhance the quality and function of sustainability reports and management in achieving supports from stakeholders. Context (2006, p.9) justifies it being necessary for the corporate report to include "a wide range of corporate responsibility issues where financial materiality is not immediately obvious". This is because these issues could undermine the business reputation, operations and ultimately determine the long-term financial success. Therefore, stakeholder concerns deserve attentions of the business; even they do not currently impact the business (Context, 2006). From this perspective, stakeholder-based stream tends to provide a more holistic and long-term view in reporting sustainability issues, and in maintaining the support from stakeholders.

6. CRITIQUE OF THE STAKEHOLDER-BASED STREAM: THREE CRITICAL QUESTIONS

Nevertheless, the current state of stakeholder-based stream remains problematic as its conceptual foundation tends to be unclear and arguable. CGA-Canada[18] (2006, p.5) comments on the GRI's materiality definition, "The discussion surrounding the prioritization of issues and indicators on the basis of their materiality requires further clarification". The definitional works of materiality tend to present a scope of materiality extended from shareholders to stakeholders, and from the financial aspect to environmental and social aspects. However, the complexity of the stakeholder concept has not been sufficiently studied and integrated into the current state of materiality conception. This paper raises three critical questions concerning the stakeholder complexity, which have not been sufficiently answered by materiality researchers advocating stakeholder-based definitional stream.

Question 1: Which groups of stakeholders should be included within the scope of materiality? Or in other words, which stakeholders should be excluded from materiality assessment?

A stakeholder is defined as "any group or individual who can affect or is affected by the achievement of the organization's objectives" (Freeman, 1984, p.46). A traditional view in stakeholder management is to differentiate the primary stakeholders from the secondary stakeholders according to the strength of their influence on the organization, and then advise the organization should focus on the claims of the primary stakeholders (Clarkson, 1995; Freeman, 1984; Harrison & John, 1996). Following this traditional approach, some researchers and practitioners prioritize the most powerful stakeholders and focus the scope of materiality assessment on only these key stakeholders (Context, 2006; Hsu, Lee & Chao, 2013).

However, an exclusion of the weak or fringe stakeholders from the scope of materiality contradicts another school's thought that all stakeholders should be taken into account in the sustainability reports, as it is the normative duty for the organization to give a due regard to each stakeholder (ISEA[19], 1999; Bellal, 2002). So what is the boundary of the scope of materiality, all stakeholders, or key stakeholders? This question confronts current state of materiality conception in sustainability accounting.

Question 2: How to address the diverse interests of stakeholders in materiality assessment?

In extant sustainability accounting literature, materiality is referred to the term "significance to stakeholders", inclining to take all stakeholders as a general group. However, it fails to address a basic understanding of stakeholder theory that stakeholders hold diverse interests and expectations on the organization (Clarkson, 1995; Freeman, 1984). Accordingly, each stakeholder has its own view on what issues are significant. An issue that is significant to one stakeholder may not be equally significant to another stakeholder. For example, the issue 'noise pollution' generated during operation of the machines impacts significantly on the stakeholder 'front-line workers', but its influence on another stakeholder 'local community' seem insignificant. On the other hand, the issue 'waste water discharged into a local river' may provoke a strong reaction of the local community, but certainly, its impact on the employees is limited. How can we compare the two above issues, "noise" and "wastewater", significant to different stakeholders, and judge which issue is more material than the other? The current state of materiality conception has not provided a justifying ground to prioritize issues involving interests from different stakeholders. The perspective of 'Diversity of stakeholder interests' signals a potential direction for materiality knowledge development in sustainability accounting.

Question 3: How to apply the materiality concept to informal communications?

In the current state, sustainability accounting literature focuses application of materiality on the publicly accessible formal sustainability reports, where different levels of reporting practices

[18] CGA-Canada: Certified General Accountants Association of Canada.

[19] ISEA: Institute of Social and Ethical AccountAbility.

correspond to different materiality levels. For example, the three levels of reporting practices, 'the printed formal report', 'online updates in the official website', and 'no report' correspond to allocations of the issues that are highly material, less material, and immaterial (GRI G3, 2000-2011; AccountAbility, 2006). But as GRI G3 (2000-2011, p.11) states, the formal sustainability reports are not used by all stakeholders, some of who would "rely on different means of communication and engagement" including phone calls, letters, advertisements, or even oral presentations. Consistently, AccountAbility (2006, p.16) advises that instead of the formal reports, sometimes "targeted or responsive communications" are necessary to inform stakeholders. However, in the context of informal communicative practices, how to differentiate priority levels remain untrodden in prior materiality research.

7. CONCLUSION

In the traditional (financial) accounting context, the principle of materiality requires the business organization to report all financial information significantly impacting on shareholders who use financial statement for their investment decision making. This function of prioritizing the significant over the insignificant issues draws researchers and practitioners to generalize the materiality concept into the sustainability accounting context, in order to resolve the problem of overloaded information associated with a multitude of sustainability issues and a wide range of external interested groups.

This paper constructs a critical review on extant works in defining materiality in the sustainability accounting context. These definitional works are patterned into three streams: (1) the simple synonym; (2) the shareholder-based; and (3) the stakeholder-based stream. It critiques that the 'simple synonym' stream fails to deliver an explicit and clear expression on 'materiality towards whom'. Recognizing investors as materiality intention of sustainability issues, the shareholder-based stream is grounded on an economic-core view, which limits the scope of the organization in selecting material issues, where some issues may not directly impact on shareholders but can influence non-financial stakeholders who manipulate resources critical to the development of the organization. Compared to the two first and second streams, the stakeholder-based stream offers a more holistic and long-term scope on judging materiality of sustainability information.

But the current state of the stakeholder-based stream is problematic in failing to address the complexity of the stakeholder environment in which the organization operates. This paper proposes three critical questions in association with three aspects of stakeholder complexity. First, should all stakeholders or only key stakeholders be taken into account of the materiality assessment? Second, how to address the diverse interests of stakeholders in assessing materiality? Third, how to apply the materiality concept in informal reporting practices? These questions shed lights on the future inquiry of the materiality knowledge in sustainability accounting.

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