



Integration of Corporate Sustainability Assessment with Management Accounting System, Control, and Reporting System

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Abstract

Worldwide companies are struggling for sustainability issues and much has been written about “why” companies are facing this. Relatively less researches have assessed the issue of particularly “how companies may overcome sustainability issues by integrating sustainability assessment process, management accounting system, management control system, and reporting system?” In an organization, corporate sustainability, requires consolidated system for measurement aspects and management of sustainability issues rather than limited applications. This paper reviews literatures those deals with organizational performance assessment, management accounting system, management control system, and reporting system. Results of review shows that many concepts of performance assessment system, management accounting system, management control system, and reporting system) are utilized in several ways and dealt with in a focused manner to achieve corporate sustainability. Based on literature review this paper intends to propose and develop a comprehensive framework by integrating performance assessment process, accounting system, control and reporting to achieve corporate sustainability. The proposed framework is a new attempt of contribution to knowledge and literature by integrating these isolated concepts which will assist researchers and academicians for better understanding of how four concepts are connected to achieve corporate sustainability and could be connected to each other to develop a coordinated approach.

Keywords: sustainability, accounting system, control system

تقييم تكامل استدامة الشركات مع نظام المحاسبة الإدارية ونظام الرقابة وإعداد التقارير

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الخلاصة

تكافح الشركات في جميع أنحاء العالم من أجل قضايا الاستدامة وكتب الكثير عن "لماذا" تواجه الشركات هذا. قامت الأبحاث الأقل نسبيًا بتقييم قضية "كيف يمكن للشركات التغلب على مشكلات الاستدامة من خلال دمج عملية تقييم الاستدامة، ونظام المحاسبة الإدارية، ونظام التحكم الإداري، ونظام الإبلاغ؟" في المؤسسة، تتطلب استدامة الشركات، نظامًا موحدًا لجوانب القياس والإدارة لقضايا الاستدامة بدلاً من التطبيقات المحدودة. تستعرض هذه الورقة الأدبيات التي تتناول تقييم الأداء التنظيمي ونظام المحاسبة الإدارية ونظام مراقبة الإدارة ونظام الإبلاغ. تظهر نتائج المراجعة أن العديد من مفاهيم نظام تقييم الأداء، ونظام المحاسبة الإدارية، ونظام الرقابة الإدارية، ونظام التقارير (يتم استخدامها بعدة طرق ويتم التعامل معها بطريقة مركزة لتحقيق استدامة الشركات. استنادًا إلى مراجعة الأدبيات، تهدف هذه الورقة إلى اقتراح وتطوير إطار شامل من خلال دمج عملية تقييم الأداء ونظام المحاسبة والرقابة وإعداد التقارير لتحقيق استدامة الشركة. يمثل الإطار المقترح محاولة جديدة للمساهمة في المعرفة والأدب من خلال دمج هذه المفاهيم المنعزلة التي ستساعد الباحثين والأكاديميين على فهم أفضل لكيفية ارتباط المفاهيم الأربعة لتحقيق استدامة الشركات ويمكن أن ترتبط ببعضها البعض لتطوير نهج منسق.

الكلمات المفتاحية: الاستدامة، النظام المحاسبي، نظام الرقابة

1. Introduction

A main percent of CEOs (93%) worldwide consider sustainability like an essential issue for the future prosperity of business, however rest only 38% CEOs consider quantifying the worth of own sustainability initiatives accurately (Hayward et al., 2013). Sustainability, denotes a situation when companies aims to combining economic goals with the responsibility of their working effect on human beings and eco-systems (Maas and Boons, 2010). Firms are facing challenges of constructing an advanced sustainability strategic plan, objectives and an effectual execution with the exploding demand in sustainability issues (Crutzen and Herzig, 2013; Kleine and von Hauff, 2009). Literature assessed the function of corporate sustainability management tools (Schaltegger and Wagner, 2006) established accounting system and reporting as an essential support for the processes of corporate sustainability (Burritt and Schaltegger, 2010; Baker and Schaltegger, 2015). Yet, comparatively very few researches did the inquiry of "how companies can overcome sustainability issues by integrating performance assessment system, management accounting system, management control system, and reporting system?" Effective system for measurement, management and reporting of corporate sustainability need a balanced interplay between various actors and methods in the company for the collection, analysis and reporting of relevant information. A research gap has observed around literature review of how to develop and implement a more comprehensive approach (Malmi and Brown, 2008). The objective of this paper is therefore to review those literatures deals with



organizational performance assessment system, management accounting system, management control system, along with reporting system.

Results of review shows that various concepts (performance assessment system, management accounting system, management control system, and reporting system) are used in several ways and dealt with in a focused manner to achieve corporate sustainability. Existing research, deals with specific methods and only some papers found investigated the proper integration and interaction of methods like accounting system, management control system and reporting systems. Depends on review results this study proposes a comprehensive framework by incorporating performance assessment system, accounting system, control and reporting system and posits that each inter-connected concepts can support to each other and proceed towards a more efficient strategic corporate sustainability of better management perspectives. The next segments of this paper is constructed as follows - the second part discussed the inter-relations between different concepts of corporate performance assessment system, management accounting system, management control system, and reporting system; the third part analyzed the findings of the literature reviews and described how a well-coordinated combined approach could be structured; fourth part proposes a comprehensive framework by integrating accounting system, management control system and reporting process for firms performance assessment and management. The paper finally concludes describing the drawbacks of the study, and stating the prospect of future research perspectives.

2. Perspectives of Corporate Performance Measurement Aspects and Management

The ground for the corporate performance improvement for sustainability of a firm is to deliver necessary knowledge about wanted and unwanted environmental and social effects, provide ideas of how those impacts can be managed, improved, as well as to obtain valid information of whether the enforced modifications have made the craved contributions to companies sustainable development (Maas and Liket, 2011; Epstein and Buhovac, 2014). Yet, a primary requirement of corporate sustainability is to improve capacity to monitor and measure the extra values (Maas and Boons, 2010). Corporate sustainability improvements has reasons - one is the public interest on firm's sustainable development, since firm's sustainability is nearly connected to transparency process, accountability and legitimacy (Gray, 2010). When improvements are earnestly chased, the strategical relevance to corporate sustainability transformed inevitably onto operational implemented activities, as well as improvements, performance measurement systems, sustainability managements becomes essential (Schaltegger and Burritt, 2010; Maas and Liket, 2011).



Employing of corporate management accounting system, control system and reporting tools requires knowledge to construct, examine and report information related to sustainability. Depending on this knowing, a better information collecting system and management systems need to provide trustworthy and extensively appreciated information to be utilized as a ground of revelation. Therefore, to construct organizational transparency and to give support to management decision to improvement functionalities, implementation and coordination of information measurement system and management processes inside the company for sustainability is required. Depends on this principle measurement this paper discussed four key concepts – sustainability (performance) assessment system, sustainability management accounting system, sustainability management control and sustainability reporting system – from the two perspectives of enforcing transparency and performance improvement (Table 1).

	Transparency	Performance
improvement		
Measurement	Sustainability (Performance) Assessment (based on reporting needs)	Sustainability Management Accounting (based on strategic objectives)
Management & communication	Sustainability Reporting	Sustainability Management Control (design and implement of formal and informal management control)

Table 1: Sustainability measurement and management aspects from the perspectives of transparency approach and performance improvement approach

2.1 The Transparency Approach

Considering corporate sustainability assessment system and performance measurement process as a way of reporting to achieve transparency implies an outside-in strategy from the society level to the company management. The measurement process assist stakeholders to evaluate the impacts, problems of the company (Clarkson et al., 2011). The internal measurement derived from assessing necessity, serves reporting activities to ensure transparency standard regarding the company's environmental and social impacts. The connection among assessment process and reporting is therefore heavily impacted by social expectations, reporting demands and standards (Schaltegger et al., 2006). The relation between



corporate performance assessment and reporting is thus defined by the principle that creates financial accounting system and reporting as well to a large extent. Researchers (Walker and Wan, 2012; Margolish and Walsh, 2003) posited when firms incorporate performance data with sustainability aspects but not with management decisions, this will not contribute in companies sustainable development and will not create any worth to the society.

2.2 The Performance Improvement Approach

In a company corporate performance measurement system is considered earlier as procedure of assembling, analyzing and communicating the performance information to reinforce the company sustainability and better management decisions (Schaltegger and Wagner, 2006; Burritt and Schaltegger, 2010). Sustainability (performance) data exploited in the means of external reporting purpose is found incomplete, untrustworthy or inaccurate (Schaltegger, 1998). Advanced research required to develop an effective corporate performance measurement system all-inclusive of indicators (leading and lagging) for better understanding of priorities of the organization (Morioka and Carvalho, 2016). Schaltegger and Wagner (2006) discussed that the fundamental rationale among corporate performance measurement system and management approaches defined by internal approach of management control in accordant with the inside-out perspective which deals with the business strategy and analyze the matters that are pertinent to effective execution of the strategy to win with the strategy .

3. Inter-Connections Between Performance Measurement System and Management Approaches

This section discussed the four keys of performance measurement process and management approaches (presented in Table 1) and according to literature review the inter-connections between them has discussed here.

3.1 Sustainability Assessment: Inter-Connection to Management Accounting, Control and Reporting

Corporate sustainability assessment perspective is progressively considered as an essential tool to assist in shifting to sustainability as well as reporting (Pope et al., 2004). If companies want to report own sustainability of performances and transformation towards targets and then development must be examined (Ness et al., 2007). In contrasted to corporate performance measurement process to decision-making intention, sustainability assessment considered as a different approach primarily exploited for reporting purposes. It is a procedure through which information acquired regarding pre-selected indicators focusing on central information applicable to all leading marked audiences (Azzone et al., 1997).



Indicators supply non-monetary information about past work impacts and performances, to deal with future-oriented issues, not especially applicable for management decisions, non-monetary information are essential to create transparency. According to the outside-in approach, the starting point of any corporate sustainability assessment is to build communication with the stakeholders, figure out the anticipations, deduce the measures of corporate performance and accounting approaches. The importance of corporate sustainability reporting has emphasized by Gray and Milne, (2002) and the external reputation of a sustainable company through the implementation of sustainability accounting system to the decision-making process of management. Companies usually faces troubles when they attempt to configure a good corporate sustainability reporting process, as they became baffled by various guidelines (Eccles et al., 2012) .

3.2 Sustainability Reporting: Inter-connection to Valuation System, Management Accounting System and Control

Corporate sustainability reporting system has been developed tremendously over the last two decades (Hahn and Kühnen, 2013; Fifka, 2013). Social stakeholders, like governments, investors, media and employees expect progressively to organizations about reporting the impact (environmental and social) of their acts (Maas and Liket, 2011). Many regulations, initiatives, guidelines expressed a necessity for corporate transparency for financial matters and for the environmental and social prospects of corporate behavior (García-Sánchez et al., 2013). Accordingly, an exploding number of companies reporting about own sustainability performance (Schreck and Raithel, 2015). Companies provide sustainability performance report to stakeholders regarding non-market issues (Isenmann and Lenz, 2001; Zadek and Merme, 2003), with the intention of achieving corporate branding, corporate reputation, as well as credibility (Lindgreen and Swaen, 2010), to increase authenticity and a “license to operate” (Kolk, 2003), or to inspire workers to work with the issues of sustainability (Weil and Winter-Watson, 2002). Integrated reporting system has been appeared as a new system of assessing management practice to aid organizations realize how to construct worth and being capable to communicate effectually with external stakeholders. The advancement of integrated reporting system and how it may successfully be implemented remains challenging and contested, however insightful experiences of integrated reporting from the early-adopters started to accumulate. Experts perceived the field to be segmented and believed that most firms presently have a poor perception regarding the integrated reporting and its business value (Perego et al. 2016).



Integrating corporate performance reports can create worth in fortifying the organization's identity and sustainability culture (Montecchia et al., 2016). The purpose of reporting is to increase the trustworthiness and transparency of its content and is going much challenging in future. To protect authenticity, the sustainability reports often examined and commented later by authentic stakeholders externally (O'Dwyer et al., 2011). Governments as a stakeholder, have high anticipations about the significant effects on performance reports that results in improved accountability and transparency (Hahn and Kühnen, 2013) and to internal changes (Adams and McNicholas, 2007). Corporate reporting system has potential value which is performance improvement-oriented, if managers use own sustainability performance data willingly for the reporting purposes and internal capability improvement. Whenever corporate sustainability performance data get incorporated into company management decisions, that results in improvements in sustainability, the business, the society, the ecosystems and even it become a reference of innovation (Porter and Kramer, 2006; Husted and Salazar, 2006). The act of corporate sustainability reporting through collection, analysis of sustainability information and internal communication, may support organizational changes to enhance consciousness about internal legitimization, sustainability issues, and the interaction among internal decision makers (Schaltegger and Wagner, 2006; Bennett et al., 2013).

3.3 Sustainability Management Accounting (SMA): Inter-connection to Management Control System, Assessment and Reporting

Corporate sustainability management accounting (SMA) denotes the procedure of collecting, analyzing and communication of information relevant to company performance and sustainability (Schaltegger and Burritt, 2010) that is required for corporate sustainability management and decision-making purposes (Valipour 2015; Bennett et al., 2013). In generally management accounting data used for internal performance improvement. SMA utilizes a various set of processes and measures to monitor, collect and create information, manage internal communication system and report to support decision-making which is opposite to sustainability reporting supported by sustainability assessment (Burritt et al., 2002). SMA focuses on common material or physical indicators of decision-making objectives (Hartmann et al., 2016). Some researchers can consider this method as to establish a clear inter-connection among management accounting systems, assessment process and reporting system (Bebbington et al., 2007), however some researchers (Johnson and Kaplan, 1991) thinks such inter-connection is unsafe because a firms reporting demands can predominate to management accounting system that is not adequately assessed by internal decisions and objectives. SMA employs collecting of monetary data from the same



database and provide supports to produce financial accounting data and reporting, and utilizes the non-monetary data as they frequently presents the monetary outcomes (Schaltegger and Burritt, 2000; Burritt et al., 2002). “Integrated Thinking and Integrated Reporting” as a recent trends attempts to induce the path of reasoning and inspiring company managers in combining sustainability aspects in company’s strategic plans, risk management systems, traditional management accounting system, control as well as reporting systems (Adams, 2015; Reverte, 2015).

3.4 Sustainability Management Control (SMC): Inter-connection to Accounting, Assessment System and Reporting Aspects

Corporate management controls refers to design, develop and utilization of controls by companies, ensure the behavior (formally and informally), controlling the actions and decisions of officials are concordant to objectives and strategic plans of the organization. Management controls comprehends formal and informal controls (Malmi and Brown, 2008). The power to control reasoned in the wide reach of them into management control system (MCS) as a complete set, instead of discussing the individual control systems. Corporate Management control hoped to employ a key responsibility to constructing and implementing the methods of sustainability strategy that frequently assigned with a high capacity of supporting the corporate decision-making procedure (Crutzen and Herzig, 2013). The integration stages of control systems in the firm, portraying the responsibility of corporate control systems to supports sustainability integration ideas in company strategic plan (George et al. 2016). SMC attempts to work in an iterative process to incessantly measure, manage and improve the interaction among business firms, society as well as environmental aspects (Bennett and James, 1998). SMC is primarily considered in the circumstance of supporting a firm’s inner performance improvements that inter-connected with the SPM and management and SMA. SMC may serve a synthesizing role as well to integrate many instrumental and operational tools of management accounting aspects to the strategic context of management perspectives (Gunther et al., 2016). Yet, SMC may connected to assessment as well and reporting process as it may gather information of reporting as well as control performance activities which externally reported and investigated through external stakeholders. Various academic researches emphasized the key responsibility of MCS and the controllers to construct the processes to implement corporate sustainability improvement programs (Schaltegger and Wagner, 2006; Crutzen and Herzig, 2012) .

The discussion regarding corporate sustainability assessment system, management accounting system and control and reporting processes presents some partial inter-connections which assessed by some researchers. Literature review presents a



comprehensive inter-connections among these key concepts of corporate sustainability information measurement process and corporate management systems, however, the framework to highlight these inter-connections is the interest of this research paper which was missing in literature review. While prior research studies on association between MCS and other corporate information measurement system and management approaches such as management accounting system and reporting is quiet insufficient (Epstein and Buhovac, 2014).

4. Separate Concepts To Comprehensive Framework

The inter-connections among the concepts of corporate sustainability assessment system, management accounting system, control and reporting focused in literature review have presented three insights. The first one, there are numerous literatures available specifically about the above concepts however very few literatures available those analyzed the inter-connections between the concepts. The second one, huge confusion found to be exist of what the concepts (individually) deals of or not, also what are their approaches and effects. Third one, few empirical studies are available examining the real firm practices, little research initiatives has been dedicated in assessing the integration and interaction between these concepts. The demand of an in-depth empirical analysis could be realized to know how the successful interaction happens among the concepts (Hartmann et al., 2015). Therefor a further empirical investigation needed to develop conceptual theory's to inter-connect various concepts as information measurement process and corporate management approaches for corporate sustainability management perspectives.

4.1 A Comprehensive Framework of Integrating Sustainability Measurement System, Management and Reporting

The corporate sustainability assessment system, management accounting system, management control, and reporting system have been illustrated as distinct concepts in the literature as different concepts of corporate sustainability performance measurement (SPM) plus corporate management system but now it is seeming distinct to improve sustainability performance, first of all, the measurement of internal corporate performance improvement and management of external transparency aspects necessary to be connected, and, second of all, indicators (leading and lagging) need to be reasoned, connected and managed in an organized manner. Depending on the findings of all literature reviews a framework proposed in this paper demonstrating the inter-connections of four concepts by developing an integrated comprehensive approach (Figure 1). Name of concepts given in Table 2.

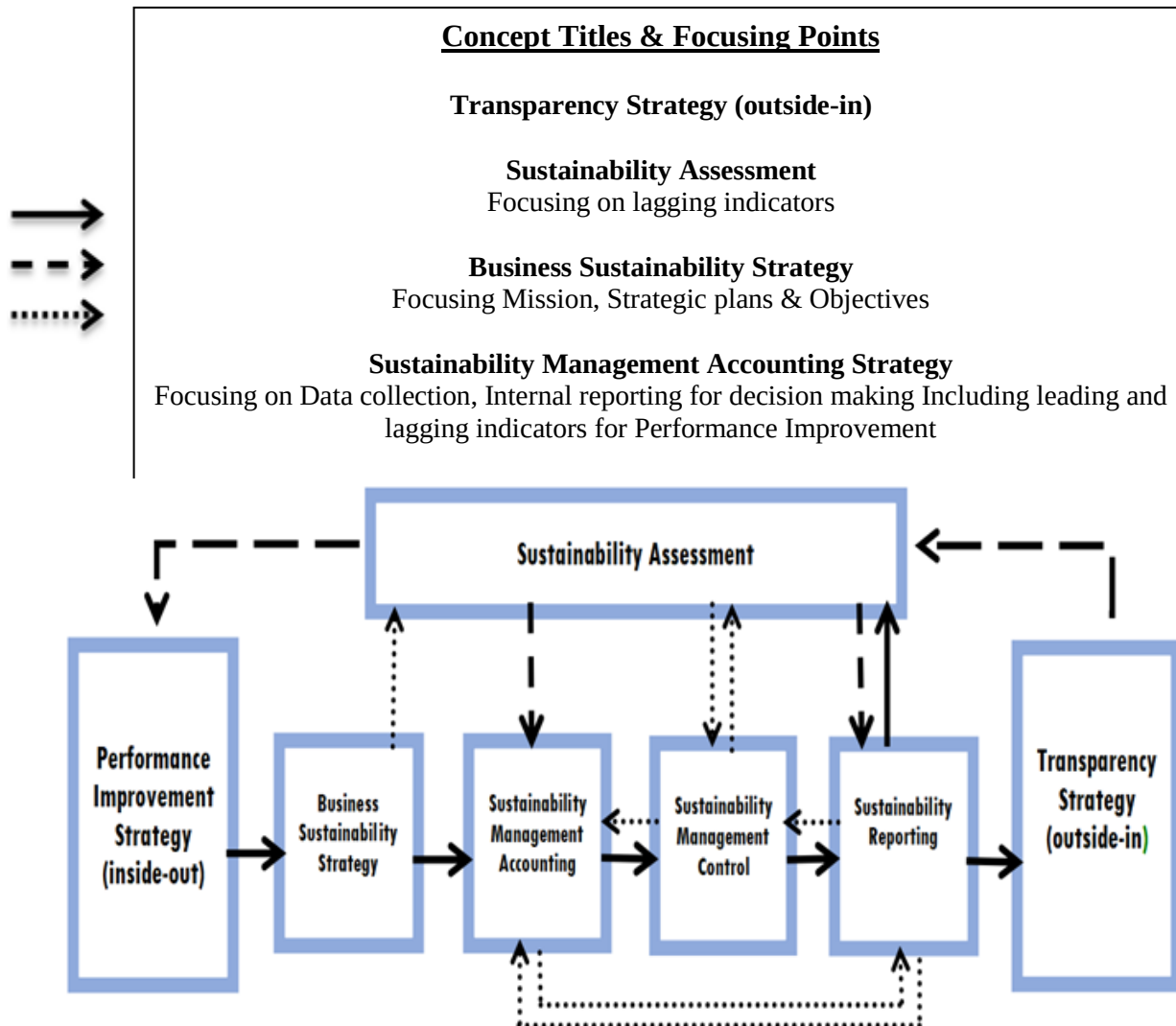


Table 2: Name of Concepts

Figure 1: Comprehensive Framework Integrating Concepts: Sustainability Assessment, Management Accounting, Control and Reporting.

Solid lines: shows inside-out connection of “performance improvement strategy”

Dashed lines: shows outside-in connection of “transparency strategy”

Dotted lines: Proposed “Integration and Inter-connection” of Sustainability assessment System, Management Accounting System, Control and Reporting System

Figure 1: Comprehensive Framework Integrating Concepts: Sustainability Assessment, Management Accounting, Control and Reporting.

The comprehensive framework in Figure 1 shows the proposed inter-connection of concepts into an integrated approach, it connecting the individual parts, focusing on the demand of external feedback. The framework may assist to consistently



design and configure the measurement process, corporate performance management system and reporting of corporate sustainability aspects in a comprehensive approach, through inside-out perspective or outside-in perspective, or sequentially both perspectives, therefore employing the “twin track” method proposed by Burritt and Schaltegger, (2010).

4.2 Construction of Framework from “Outside-In” Approach

Some researchers argued that exterior demand from stakeholders affect more the firm’s corporate behavior and accordingly its performance than internal demands (Deloitte and CSR Netherlands, 2015). Engaging audiences is one of the important cause to construct a distinct and high quality corporate performance report (WBCSD, 2014). The WBCSD emphasized the value of the utilization of stakeholder’s feedback for the development of reporting cycle to improve the sustainability performance and actual decision-making capability. Stakeholders may cater suggestions, advice, as well as evaluate the firm depend on its sustainability report. Developing an inter-connected sustainability reporting approach by combining assessment system, and management accounting control, maybe directed by the questions below:

What type of information expected by various stakeholders and how to prepare and measure the information to ensure meaningful usage of information?

How to assess sustainability impact depends on stakeholder expectations?

What environmental and social aspects exposed and how they match with stakeholders benefit? (Sustainability assessment)?

How firms may connect of how they deal with sustainability aspects? (Sustainability reporting)?

How firms may develop controls (accounting process and non-accounting process) to gather data for reporting purpose?

How firms may develop an effectual strategy to corporate sustainability which is well connected to the firm’s core business?

Involvement of stakeholder requires to convince companies that stakeholder feedback will have positive impact, by integrating an information communication system based on sustainability reports with relevant and trustworthy information. Verification may be helpful for trustworthiness of report but are improbable to provide the assurance that the content of the report will be accepted by all stakeholders. The feedback portions can connect transparency aspects to performance improvement aspects utilizing the information of the four concepts which necessitates a good inter-connection of reporting processes to management accounting as well as communication process. Firms are utilizing sustainability reporting system in strategical way that often sustainability is integrated into the strategic priorities (Higgins and Coffey, 2016). In some cases if firms inform and



contend to some definite points, sustainability reporting may provide extra advantages if utilized as an input material for stakeholder feedback. If the stakeholders feedback designed well to involve interactively to firms, to establish newly developed methods that may introduce new paths of how farm's may contribute to business sustainability.

4.3 Constructing of Framework from “Inside-Out” Approach

The inside-out approaches focused on improvement of sustainability performances which followed reporting in the last step. Reporting usually depend on strategic plan of business sustainability and assessing the issues that are related to execution of the strategic plan in the company and get success with the strategy outcome. As a result, having an effective corporate sustainability assessment process, management accounting system and control system, company managers need specify the targets and benchmarks of corporate sustainability performance perspectives. In such cases the duty of the management is to determine the sustainability issues related to strategy, to control the system, to achieve the goals, as well as to report accomplishments and gaps of the company. The corporate sustainability reports conferred to stakeholders who provide feedback upon the relevancy of information. Depending on this feedback the information measurement system and reporting process can further be modified to ensure the indicators (leading and lagging) and issues those are key to business success and to stakeholders are incorporated in the assessment procedure, management accounting system, control and reporting aspects. In this case the measurement system and management approaches will be at first motivated by the company's internal strategy. Constructing an integrated approach of corporate management accounting system and control process from the “inside-out” approach is inter-connected to assessment process and reporting may directed by the questions below:

What environmental and communal aspects companies susceptible to? (Initial sustainability assessment)?

Which issues strategically related to business and how to integrate them? (Constructing corporate sustainability strategy and relevant objectives)?

How firms may develop corporate accounting system to acquire (accounting based) information to manage the central aspects? (SMA and performance measurement)?

How firms may develop satisfactory controls (formal and informal) to assist corporate accomplishments of sustainability? (Sustainability management controls)?



How firms may communicate with stakeholders (internal and external) to ensure they get informed properly? (Sustainability reporting?)

Stakeholder feed-backs can integrated with performance improvement perspectives, with transparency perspectives through utilizing information of all four concepts. Though in reporting, emphasis given usually on lagging indicators, however to stakeholders it maybe newsworthy to read out the company progress on indicators. Though the priority increased according to literature about the importance of stakeholder feed-backs to managerial systems, experiential evidences are is still fragmented about stakeholder feed-backs (Ferri et al., 2016). Ferri et al., (2016) study exposed the variations of stakeholder feed-backs utilized by firms in various institutional contexts and findings suggested that corporate sustainability accounting system and reporting system may not be considered as action by choice, they must be recognize as an essential managerial practice to construct a wide range of helpful information database to adjust to the sustainability performance system and managerial systems with institutional context.

Only information does not provide satisfactory transparency about sustainability goals in a company, reporting with information assists to achieve the goals through the process within specific time schedule and ensure improvement. Reporting from an inside-out approach provide clear explanation of achieving non-financial performances (Eccles and Saltzman, 2011) and consider future worth of sustainability performance of the company and as well as stakeholders aspects (Adams, 2015). Reports says that two thirds organizational investors globally wants to conceive non-financial information for companies own future investment decisions (WBCSD, 2014). Investors give value to corporate sustainability management programs instead of infinite sustainability performance issues which is examined by assessment program conducted by rating agencies (McLaughlin et al., 2015).

Companies need to deliver report enables stakeholders realize the present status of the company, i.e. the performance, the processes to achieve this performance as well as the factors internally affecting the results. Furthermore, companies need to report on significance of management, also illustrate how this system incorporated to business context (WBCSD, 2014). With this regard, Thijssens et al., (2016) suggested that sustainability reporting need to think of the process concerning to corporate sustainability performance outcomes and the association of firms performance to business strategy, programs, as well as strategic objectives. If the reports content is clear with related issues, stakeholders may deliver advice, criticism as well as suggestions for further improvement. Organizations may employ this feedback to companies' managerial decision-making process to mend corporate sustainability performance. A well-developed comprehensive twin-track



approach reflects a workable inter-connection among the inside-out as well as outside-in perspective that may assist in exchange of information among various internal actors and external stakeholders of a company that represents corporate sustainability improvements through an integrated inter-connected process (Baker and Schaltegger, 2015) .

Conclusion

The proposed comprehensive framework may avail to new researchers to distinctly focus on constructing comprehensive approaches for corporate SPM, management and reporting, does not an issue whether the transparency may improve corporate performance through management decision support to be granted as a priority matter. The framework may assist company management realize better of how the four notions of corporate sustainability assessment system, sustainability management accounting system and control and sustainability reporting system associated and inter-connected to construct an integrated, comprehensive approach which is required for transparency in a company to stakeholders (internal and external) and therefore connects to essential actors who are responsible for managing and calculating the corporate sustainability performance. When a company wants to advance corporate sustainability performance level, the internal company actors requires effective tools of management for adjustment with the company. Sometimes a big number of firm's declared high aspirations of sustainability and constructed broad sustainability reports, with particular accounting tools for company applications have been assessed in single case study literatures. The role of specific actors and daily business processes in the company has been examined, by accountants or by sustainability department, however the interaction among various management levels, staffs, and departments so far did not attained much concern by researchers. Likewise, corporate management control systems assessed in regards to sustainability issues in a sharply focused manner leaving the question of how the sustainability management control system has integrated with the range of management methods employed in a company. Even the reporting system in company which is the focusing point of a large number of academic literatures often demonstrated in a sole manner without indicating connections of how the reported information gathered, assembled, analyzed, as well as communicated to stakeholders.

The traditional literatures of accounting and control and sustainability accounting system, various concepts has outlined and utilized in several ways – usually as separate concepts or sometimes synonymous. Broad descriptions and differentiation discussed of how concepts outlined in various disciplines are thus necessary (Section 2.1). Depend on a twin-track approach this paper proposed a comprehensive inter-connected framework of four concepts of sustainability information measurement system and management approaches. Many existing



research found primarily dealing with other specific concepts in an isolated non-comprehensive manner while this paper managing the inter-connections of corporate sustainability assessment, reporting, accounting and management control in a comprehensive approach. Only a few literatures found investigated the interaction of accounting, corporate management control system and reporting perspectives. As a first attempt this paper provides a comprehensive framework to encourage more organized conceptual integration and inter-connection between definite management process, sustainability information measurement system as well as management approaches. Forthcoming researches will be a challenge to conduct empirical investigation of how companies may collect, analyze, utilize informations practically and communicate internally the sustainability information, which tools companies will utilize to perform those tasks, how the operational processes among internal actors will be managed and finally how various concepts like corporate sustainability accounting system, management control system and communication system and reporting systems works together.

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Appendix – A :

Interview Protocol:

This interview guide has divided into four sections according to the research requirement. Every section contains its questions that are asked from the participants of the study .

Status of Guidelines and Acceptance:

- What is the status of government legislation about construction industry?
- What is the effectiveness of rules and regulation in the construction industry implemented by the government?



- If the rules and regulation become effective; policies should be amended according to the requirement?

Setting Guidelines:

- Is there any possibility to hire the experts into the project? Or contractor handles every critical area of the project?
- Is the contractor plan the procurement or it is being ordered when it is required?
- What is the role of experts in approving the planned procurement?

Risk Management and Risk Insurance in Construction:

- Is there any chance of using the insurance as a tool to reduce the cost of the project?
- What is the effectiveness of insurance coverage in the construction project?
- Is there any involvement of risk assessor into the project?

Inducting Insurance Policy In the Construction Contract:

- How insurance policy is effective in managing the risk into the project?
- What is your perception of insurance cost that it should be from the contractor or from the owner?
- How effective if the risk management and insurance policy become the part of safety for the project?