Environmental Information: Pressures, Types and Usage

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Abstract

In the recent series events of global warming, pollutions and natural disasters, coupled with the pressing pressures on the concern for environmental and social aspects from various stakeholders, organisations are driven to strike balance their operations by reducing impacts on environment and social while increasing the company's wealth. In responding to the pressures, one way is through voluntarily disclosing information on their environmental impacts such as publication of corporate social responsibility report. However, most studies conducted are mainly looking from an external viewpoint utilizing the methods such as examining closures and the question of where and how the information to support environmental reporting would be derived from are often not considered. Therefore in this paper, we look into the pressures that lead managers into adopting sustainability management, the types of environmental information being considered and its usage and users. The findings derived from interviews with key personnel revealed that a number of external and internal pressures lead a variety of internal users from different departments involved and these users to a certain extent are incorporating environmental information in decision making. Besides, studies on the aspect of internal users and usage of environmental information in achieving better environmental management still largely remain unexplored.

Keywords: Legitimacy, institutional theory, environmental information

1. INTRODUCTION

Both human-made as well as natural calamities are part of the focal reasons that require business organisations worldwide to consider their environmental issues more seriously. In today's condition where climate uncertainty is certain, environmental circumstances such as drought and floods had affected global agricultural production resulting in volatility of commodity pricing. The oil spill in the Gulf of Mexico, the Asian tsunami and the global climate change are among examples of major misfortunes that have impede business activities causing huge financial losses (The Prince of Wales Report, 2012). Hence, many business organisations are now considering environmental issues as a significant aspect of their business issues given its weightage on the income statement and balance sheet implications. Following this development, the area of environmental management is now recognized by many as an area that needs to be fostered holistically, particularly on its linkage with business performance (Gray & Bebbington, 2001).

Business organisations are confronted with various sources of pressures for better environmental management practices namely from the government and society (Schaltegger & Burritt, 2000). Newly introduced environmental related government legislations, tax rebates and exemptions, as well as the demand from the market and society for greener products and business practices have forced business organizations to upgrade their environmental management practices for better legitimacy and competitiveness. One common way of coping with the abovementioned pressures is by voluntarily disclosing environmental related information through corporate social responsibility report. Prior studies in this area often focus on the determinants of environmental reporting specifically

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relating to the reasons for company to undertake reporting as well as factors that influence the content of their reports. Many studies have analyzed on the link between environmental reporting with the size of the organisation (Orlitzky, 2001; Patten, 2002) and type of industry (Purushothaman *et al.*, 2000, Patten, 2002).

The main arguments explaining the reasons as to why and how business organisations conduct environmental reporting suggest that organisations report as a form of response towards the needs of decision-makers (Parker, 1991), to gain legitimacy in the eyes of publics (Deegan, 2002; O'Donovan, 2002), as an attempt to manage stakeholders (Neu *et al.*, 1998) and to some extent, to influence 'other voice' that are fundamental of political and philosophical questions (Owen *et al.*, 1997). Nevertheless, despite the motivation for environmental reporting had been significantly theorised, studies are still inconclusive on the theory for social and environmental accounting (Gray *et al.*, 1995), particularly in the accounting aspects that are linked to environmental management. It is interesting to note that majority of the studies on business organisations reaction to environmental related pressures had been emphasizing on the external viewpoint, where attention are very much given to what are being reported to the public, as well as its underlying reasons. At present, there is still a scarcity of information that focuses on why environmental information is produced and how it functions, from the internal usage perspective.

Taking into consideration the gap in literature, this is a preliminary study that attempts to ascertain the pressures that lead to the generation and usage of environmental information in supporting the various core functions of the business organisations in two selected companies. Study of this nature is timely given the fact that business organisations are now expected to put in place environmental management practices that explicitly link between environmental performance and economic performance. Looking at the current nature of business strategies and operations where environmental friendly innovation and investment are becoming more substantial, the existence and role of quantified environmental information, as well as its respective tools must be acknowledge in order to justify the impact of environmental activities towards business wellbeing. Thus the objective of this study is twofold. First, the study intends to identify the types of pressures that motivate business organisations in providing environmental information for business decision making. Second, the study aims to pinpoints on the environmental information, specifically on its types, usage, recipients and functions.

The remaining of the paper is organised in the following order. The next section provide a review of literature examining the factors that push for environmental practices, the types of environmental information are generated, to what extent the information are being used and who are the users of such information within organisation. This is then followed by research methodology used in this study and brief contexts of the study are described. Then, the case findings and discussion are presented and lastly followed by conclusion.

2. LITERATURE REVIEW

2.1 Theoretical insights

Both legitimacy theory and new institutional sociology (NIS) theory will be applied to provide examine on what motivates internal managers on the types of environmental information is being collected and the internal usage of environmental information. As there are overlaps between the theories, these theories are then able to provide richer understanding of institutional pressures for sustainability management.

Organisations rely on economic resources to survive while at the same needed to gain legitimacy and acceptance by the society in which they operate (DiMaggio & Powell, 1991; Meyer & Rowan, 1977). Therefore, organisations in turn conform to institutional pressures by making structural changes or adopt certain practices. Three institutional isomorphism were suggested by DiMaggio & Powell (1983), namely coercive isomorphism that stems from external pressures such as government mandate that exerted on organisations in environment where they dependent for resources or support. The second is mimetic isomorphism that occurs when organisation copy of other successful organisations under uncertainty situations. Lastly is normative isomorphism, an influence towards organisation's practices due to society and professional bodies' norms and rules.

The pressure forces organisations to change their practices to be consistent with the mandates of institutions (Granlund & Lukka 1998). A literature review reveals that government agencies are the most visible stakeholders or drivers to affect corporate environmental practices (e.g. Subramaniam et al., 2015; Delmas & Toffel 2004; Hoffman 2001).

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According to Delmas (2002), ISO14001 certification is more popular in Europe than in the United States of America primarily because of more incentives provided by various governments in Europe.

Besides, there is also a possibility that managing environmental aspect are the actions were being regarded as a way to legitimise their internal practices or to demonstrate that they do appear to manage their environmental impact in response to pressure. As a result, for organisational to survive, legitimacy is needed (Meyer & Rowan, 1977) where organisations that are perceived by its stakeholders to be legitimate find it easier to attract economic resources as well as obtaining support from social and political aspects which too, are necessary for survival. Hence, Suchman (1995) put forth and defines legitimacy as "a generalised perception or assumption that the actions of an entity are desirable or appropriate within some socially constructed system of norms, values and definitions."

In the context of this study, NIS theory can identify and provide understanding of institutional forces that lead organisation in adhering to sustainability practices. On the other hand, as sources of legitimacy may well be embedded within the organisation, including both its legacy at founding (Stinchcombe, 1965) and the practices and actions of its members (Lawrence *et al*., 2011) where managers are view in capable to change perceptions on legitimacy. In other words, organisations will do the necessary to maintain their image as legitimate business entity and one of the ways of achieving it is through information to gain support and approval (Behram, 2015; Gray *et al*., 1996). Since the study aims to understand the institutional pressure that drives organisation to adopt sustainability practices and also to identify the types of information generated by internal managers and its usage in order to achieve or maintain legitimacy hence together, both theories are able to explain the behaviour.

2.2   EMA framework

EMA can be defined as "using monetary and physical information for internal management use". Thus, a point to note is that EMA relies heavily on non-financial information, especially in regards to inputs, outputs and flows of energy, material and water. Its final objective is to provide information to support environmental-related decision making by mainstream financial managers. This is line with the findings by Lee (2008) one of the key objectives of EMA is to 'to provide accurate and relevant information for decision making, which have an impact on both environmental and financial performance of an organisation'.

EMA framework includes both monetary environmental management accounting (MEMA) and physical environmental management accounting (PEMA). MEMA includes the environmentally differentiated conventional management accounting system, dealing with environmentally-driven impacts and is express in monetary terms. PEMA on the other hand act as informational tool in assisting internal management decisions and it focuses on a company's ecological impact on the natural environment, however it is being expressed in term of physical units like kilograms. PEMA is designed in such a way that it collects environmental impact related information in physical units for internal use by the management (Schaltegger & Burritt, 2000; Schaltegger, Hahn & Burritt, 2002).

The EMA framework has been adapted by several researches especially in proofing the suitability in helping companies to achieve cleaner production and at the same time, achieve cost reduction in production processes. A study by Staniskis & Stasiskiene (2006) look into the adoption of EMA practices in Lithunian SMEs revealed that with the implementation of EMA, it allow easy tracking of significant environmental costs to respective product (example, material tracking for material costs and other related product costs such as energy, water use, others) and waste streams. The availability of such information is vital for decision making in the effort to achieve sustainable development and also increase the accuracy in estimating costs, capital investment, process or product design and other decision making processes (Staniskis & Stasiskiene, 2006). As such, in determining the types of environmental information being generated by the internal managers are based on the adoption of EMA framework.

Also, many researchers have launched studies on the use of social and environmental information (Guidry & Patten, 2012; Rikhardsson & Holm, 2008; Milne & Patten, 2002), but by far, the focus is on external users. Most of the studies explained that disclosure of social and environmental aspect has information content, and that investors and other external parties do take into consideration of such information in their decision making. Only a handful of studies have tested the use of social and environmental information for internal users (Madein & Sholihin, 2015). One of studies of such research is by Tanc & Gokoglan (2015) on the sensitivity of manufacturing companies in industrial zone of Turkey; found that most managers are aware of the concepts and approaches on usage of environmental

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information but lack of information on applicability. The study too revealed that the pressures of incorporating environmental information in accounting for decision making are largely due to costs reduction, to increase value-added towards organisations and to ensure their survival in competitive world.

Besides, literature review highlighted that in order for environmental management to be successfully implemented, the biggest factor is cooperation and communication between individuals involved in different functions (Hoffman, 2001). Delmas (2002) went further explaining that managers depend on their routines and decide which appropriate information is needed for example, decision making. Still, there is limited study on managers being as internal users are considered and what the purposes of such environmental information usage are to be determined.

However, the EMA framework does not explain the processes on how company decision makers design their environmental information management and use of processes. Therefore, this research attempts to identify what environmental information is being generated by managers using the four dimensions of EMA framework, to identify what institutional pressure that leads to sustainability practices and lastly to determine who are the internal users of environmental information.

3. RESEARCH METHODOLOGY

Given that this research is to understand how experiences and also attitudes of people, it is appropriate in this study to use case study method (Patton & Cochran, 2002). The qualitative study has the ability to probe into responses or observations as needed to obtain more detailed and related descriptions and explanations in answering the why and how questions. Also given that the basis of qualitative research lies in the interpretative approach to social reality and in the description of the lived experience human beings. Therefore, this particular study is intended to understand the experiences of not only sustainability managers but also financial managers as well in the extent of using environmental information for various purposes such as decision making. Most of the researches (Burritt *et al.*, 2011; Bennet *et al.*, 2013) on the topics like environmental management accounting revealed that sustainability or middle managers are often the actors involved in sustainability management or even in sustainability accounting. the accountant's involvement in directing data generation and communication of information whether across departments or to higher management are limited or very little as compared to sustainability managers or general managers.

The companies that we selected for this pilot study were selected from the service industry. The two companies; one is a public listed company and the other is privately-owned company and both were selected based on the following key considerations. The first consideration is the companies with positive reputation for their sustainability management that reflected in their publication such as corporate social responsibility report. Secondly the companies are from environmental sensitive industries and lastly the companies have achieved green award such as Frost & Sullivan Award or certification like ISO14001 or Environmental Management System (EMS).

After background research was conducted, between two to four interviews were carried in each company. Semi-structured interviews were used to allow individuals to express themselves in their own words and follow up questions to be asked when appropriate (Eriksson & Kovalainen, 2011). Interviews are also useful for obtaining story on participants' experiences as interview allows interaction to gain in-depth information around the topic (McNamara, 1999). Interviews were recorded and transcribed after the interviews are conducted. Also, secondary data sources such as company corporate social responsibility reports and other related documents too reviewed. This is to ensure data are from different sources and also triangulation of evidence was done whereby the information from one source was assessed by comparing it with other sources of evidence and interviewing different people on the same issues (Scapens, 1990).

4. FINDINGS AND DISCUSSION

4.1 The external and internal pressures of environmental information provision

Both public listed and private-owned companies were under several external and internal pressured that lead to measuring and monitoring of environmental related information in order to provide to stakeholders (gaining legitimacy). For example, pressure from the governmental regulators lead privately-owned company in collecting environmental information such as energy consumption and carbon dioxide emission, as commented by the Health, Safety and Environment (HSE) Officer:

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> *"We here just collect the data once the project is completed because we need to give the data to the Governmental Authority. It is because the Governmental Authority got the Green Policy in placed last year (2014), and from these policies they request certain information, like the amount of CO_2 emission."*

The action of complying with the authority figures and governmental regulators shown as an act that demonstrate its responsibility with the implicit objective of influencing the public, in this case, the local authorities. Therefore, in order to ensure survival of the organisation, HSE department will continue to supply of that information to maintain legitimacy. The findings are align with other researchers' results (Delmas & Toffer, 2004; Hoffman, 2001) that government (coercive pressure) is the most observable stakeholder that affects organisation's practices.

Besides external pressures faced by privately-owned company, it also faces with internal pressure which is the desire of top management in obtaining certification to improve company's reputation and to attract more sales through the recognition of such certification. This was pointed out by the Business Optimisation Unit Officer, a unit that plays a similar role to sustainability department:

> "A way to demonstrate we are complying with the standards. Yes, and also we also follow the EMS."

In comparison, the external pressure faces by public listed company is somehow differ to privately-owned company. The external pressure face was more of normative values of professionalism such as from the non-government organisations in order to gain recognition and legitimacy. As highlighted by the Sustainability Officer:

> "It is because we are GLC Company so we are expected to be role model"

Additionally, from year 2007 onward, under the Listing Requirements by Bursa Malaysia, all public listed companies must disclose their CSR activities or practices (and that of their subsidiaries) (Sustainability Stock Exchange Initiatives, 2013). The regulations required by the Bursa Malaysia also acts as coercive pressure that pushes the company to sustainable and its shows compliance by regularly submitting the CSR report produced by the Sustainability unit to be publicly publish in the website, in addition to all stakeholders.

Apart from external pressure, public listed company is also driven by the internal pressure of achieving costs reduction on energy, water and carbon dioxide emission through more efficient operational processes. In order to attain cut costs, public listed company started to monitor and measure its energy consumption. Each plant operational manager is to monitor and do monthly reporting to the headquarter where the collected data after analysis, helps to identify root cause and potential solutions such as utilizing of energy saving light bulbs or installation of solar panels. As explained by the General Manager (GM):

> *"It is more on profit oriented; because the energy consumption is a big chunk in our operating costs, so the drivers of having this data collected are more profit oriented."*

4.2   Type and source of environmental information

4.2.1   Source of environmental information

According to Bennet *et al*., (2013), a wide variety of different individuals and functions can be in involve in collecting environmental information and not restricted to operational or sustainability department. In the given two companies, a variety of actors are actually involved in generating environmental information. Using the collection of information on energy consumption as example, the public listed company monitoring of energy consumption in operational centers is by the Sustainability Unit while the Engineering department plays the role as middleperson between Sustainability Unit and Operational Managers where Engineering department compiles all energy consumption data from 21 operational centers using the Energy Dashboard system. Both departments largely depend on the reports send out by respective Operational Managers and these managers in turn submit the report based on the monthly electricity bill received. Later, both departments look for discrepancies such as sudden increase in energy consumption and take corrective action with the collaboration of Operational Managers as well.

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> *"We have safety, environmental and health department, risk management, finance and of course operation team is involved. And I think for the CSR report, procurement, R&D as well...these are the people involved."*

The privately-owned company, on the other hand purposefully established a new unit known as Business Optimisation Unit (BOU) which also comprises Process Review Team that plays the role of monitoring and collecting the utilities consumption. However, the portfolio of waste management falls under the care of Technical team. All monitoring, measuring and compliance with schedule waste as required by governmental regulators are joint effort between Technical team and HSE department although HSE department play more of advisory role in ensuring Technical team comply with all regulations imposed. As commented:

> *"It is actually the joint effort between HSE and Technical team. Technical team is actually the biggest waste producer, the lubricant, grease, oil use for maintenance purposes. All these scheduled are being generated and mainly consumed over there. HSE plays the role of advising, educating and audit the Technical Team to make sure they comply with the regulations"*

Unlike the public listed company, HSE department plays a limited role in generating environmental information, but rather the role was carried out Process Review Team, Technical Team and respective Business Owners[1]. As explained by the HSE Officer:

> *"So for the actions of collecting and monitoring and analysis are done by each departments and HSE only disseminate the outcome. It is a very different practice compared to other companies"*

An obvious pattern emerged was of Sustainability department or the case of privately-owned company is the BOU having the highest degree of involvement in generating environmental information through the means of delegating and deciding exactly what information should be collected by appropriate Operational Managers, Technical Team and Process Review Team. This is in-line with the findings of Schaltegger, Harms & Windolph (2013) that sustainability department is generally in-charge of collecting and collating environmental data and departments that closely involved include HSE department, followed by Corporate Communication department while both Accounting and Finance departments are the least involved in sustainability management.

4.2.2 Types of environmental information

Information that reported companies that they are generating was also being analysed based on the four dimensions of EMA framework which represent four distinct information properties. These information properties include type of information, specifically whether physical or monetary. The time frame of the information, specifically whether is it future-oriented or past-oriented. Next is the time frame of the decision situation which the information was being used to support either long term or short term or both and lastly how routinely information was being generated, differentiated between ad hoc and routinely generated (Burritt *et al*., 2002). Table 1 shows the summary on types of information by both companies based on EMA framework.

For example, in the first dimension of physical versus monetary information, public listed company focuses on main four areas the category of environmental including energy, water, waste and effluents and emission. As commented by the Sustainability Officer:
> *"For now, for reporting purpose, we do have monthly measurement on data for energy, water, waste and especially on energy. Also for waste, we do monitor like how much waste is being sent to landfill, how much wastes are being recycled, as well as carbon, fuel consumption for vehicles and water consumption."*

Similarly, privately-owned company also focuses on physical aspect of information where they too measure fuel consumption as it is consider one of the biggest operating expenses. The BOU Officer explained that:

> *"Fuel is being used in many areas, like our prime movers, trucks are also consume fuel…The prime movers we have about 450, 300 over owned by us and 80 over are owned by third party. However, all these trucks take fuel from us, from the fuel station inside the compound."*

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[1] Business Owners refer to respective General Manager in-charge of various departments within the privately-owned company.

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Additionally, both companies also generated monetary based information and the reason behind is largely due to fact that accountants are unable to gauge the impact of physical based information hence translation is needed into dollar and cents. As commented by the GM of public listed company:

> *"We are facilitator and sometimes need to compute, analyse and put some of these plans in financial term like ROI, savings, or financial gains. We sort of push for this calculated measures…finance they speak different language and because of that, the case get drown. If it is in translation of dollars and cents, like ROI, it will then be easier to speak this language to finance and easier to be adopted as plan."*

The same situation is also happening in privately-owned company where translation of physical information into monetary based is necessary when dealing with accounting and finance departments. As put forth by the BOU:

> *"Electricity does increase, but the benefits we are getting from converting electricity consumption from kilowatt into financial perspective…dollars and cents give much greater sense for them (referring to Finance department) and that what got us successfully converting traditional fuel consumption vehicles into electrical cars".*

A board spectrum of different kinds of environmental information appeared across the two companies in the study. But there is a clear indication that the information tends to lean towards physical than monetary information as measurement for energy, water, amount of waste and emission produced are in physical units such as kilowatt and kilograms. This suggests that the main emphasis is more on environmental goals and eco-effectiveness (reduce of impacts on the natural environment. It is usually expressed in terms of absolute amounts of physical quantities such as carbon dioxide emissions, ecological footprints), which could explain by the core goal of sustainability or HSE departments to reduce negative environmental impacts.

Both companies shown examples of attempts in improving environmental efforts which would require reducing the impacts, indicating the efficiency is a core issue in communicating with middle and operational management. One of the reasons is a need (or perceived need) to legitimize the collection and use of physical information in terms of the company's economic goals, and frequently also to satisfy senior management's requirement that calculations of cost-effectiveness and impacts on profitability be carried out for all activities including those which are sustainability-related to support the setting of targets and the monitoring of performance.

In the next dimension of whether the environmental information is future-oriented or past-oriented, both companies expressed that both types of information are collected with a single purpose: allocation for resources through legitimation of activities and projects. For example, public listed company based on past-oriented data such as monthly energy consumption and projected a five years sustainability plan. According to the GM:

> *"Just like our five years plan, for resource management, what was key is to get endorsed at least someone from decision makers, easier monitoring in term of monetary…the information is in placed allowing the decision making done effectively."*

Likewise, for privately-owned company the use of past-oriented information is also for the very same reason of getting approval from top management for investment in new projects. As stated by the HSE Officer:

> *"Future oriented basically for upcoming projects. Once the project being proposed and initiated, they must have like how costs can be reduce, how much money needed, all must be projected."*

Both companies focus on monetary past-oriented information can be interpreted as a search for internal legitimacy by presenting ex-post summary to top management in hoping to secure resources for next period or simply to highlight contributions by sustainability activities towards organisation's performance. In other words, it is a way sustainability manager trying to seek in legitimating projects and activities in the eyes of top management.

The third dimension is the short-term versus long-term information generate by companies. The definition between short term and long term largely depends on the nature of the companies' businesses. The understandings of what 'short term' meant in practice were found to vary over a range from one week to six months, whereas long term was

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considered to be any period over a year. For instances, only public listed company by far moving towards development of long-term oriented information to support decision making. Its recently approved five year plan is evidently shown and how public listed company plans to achieve carbon neutrality by year 2020.

However, in comparison, privately-owned company focuses on past-oriented, short-term such as short term impact on the environment based on departmental level. As explained by the HSE Officer, example of such type of information is the project of changing existing light into cost saving light bulbs:

> *"I see our company is more on short term. By far, long term again it is only the e-RTG project. The information is more for short term oriented. (...) Like the Prismalence project (the project on change of cost saving light bulbs) I believe is a short term because it started and ended in less than a year."*

Evidently there is some decision situations in sustainability management that are related to planning for future, including long term sustainability plan, although targets for future performance are primarily determine on the ground of past performance (example, past-oriented information).

Last dimension is on whether the generated information is on ad hoc, information collected as the need arise or routinely basis, information generated from routine process (Burrit *et al.*, 2002). Even in well-established areas of management which are well served by formal information systems, there still often a need for ad hoc information exercises for special situations. It was anticipated that the need for ad hoc information to support sustainability management would be greater than the norm since this is both more recent and still fast-developing. Example, privately-owned company rely a lot on routinely generated information such as amount of energy and water consumption which is on monthly basis to monitor their environmental performance.

Conclusively, both companies as a whole, displayed all types of information as exhibit in the EMA framework are generated. However, in many cases the predominant focus on types of information generated tend towards of physical related information. Although focus on physical information assist companies in designing methods to improve their environmental performance on certain aspect, but strict application can make it hard for decision makers to assess the impact on economic performance (Schaltegger, 1998). Unwarranted focus on physical information too could cause inefficient in allocation of resource, for example, manager may ended risking in one project at the expense of other opportunities that may be of greater potential, both economic and environmental (Bennett, *et al.*, 2013).

Companies also demonstrate the tendency toward past-oriented and routinely information. The demand for short-term information and its systematisation of its provision could also be translated that companies are actually using environmental information, both for planning and in daily operations. Developments of future-oriented information are likely to include a trend towards more routinely collected and it is being used for planning and supporting daily operations.

Table 1: Summary on types of environmental information

Company	Monetary	Physical	Short Term	Long Term	Past Oriented	Future Oriented	Ad Hoc	Routinely
Public Listed	x	x	x	x	x	x		x
Privately-Owned	x	x	x		x		x	x

4.3   Users and usage of environmental information

The understanding on the reasons behind the generation of environmental data helps to answer the issue of who are the recipients, whether external or internally. Aside from the coercive pressure of providing governmental regulators on certain environmental information, in the privately-owned company other users in middle level including Process Review Team and the respective Business Owners too use environmental information. Their purpose of environmental information usage however vary from the regulators as the focus is more on achieving better cost on quantitative non-financial such as waste, effluent, and energy savings. At the top management, they require certain environmental related information mostly to have an overview of current situations and as assessment towards certain departments' performances. As explained by BOU Officer:

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> *"At the top level, they want to see, a higher level, a summary, for example, to the management like to see the KPIs, fuel consumption on prime movers and all these related information."*

Besides, the available environmental information is use as a basis for Process Review team in deciding the next sustainability project to be undertaken mainly with the purpose to improve internal processes or achieve efficiency. They also act as liaison among departments, communicating and ensuring the right and needed information are being properly channeled to the right department(s). As mentioned by Executive of BOU:

> *"Yes, they are like a categorist, like a trigger because they want to know, move and drive process improvement culture. They come also play a part in term of linking up what this department knows, what that department knows…So the Process Review team will have to reach to other departments, linking up cross-functional kind of role, to link up the missing information."*

Similarly in the public listed company, environmental information is needed by the internal user such as Audit team for certification purpose, which is internally driven.

> *"Normally internal environmental performance is channel to internal audit for ISO compliance purpose and also for the Corporate Communication if they want to publish the information."*

Additionally, the Sustainability unit takes into consideration of environmental information as a means of identifying energy efficiency and therefore cost saving opportunities and also for executing sustainability related investments. This finding is supported by International Federation of Accountants (IFAC) (2005) that physical information collected can help organisations to effectively manage environmental impact, which tracking and reducing the amount of resources used will be essential.

5.   CONCLUSION

The study shows a number of external and internal pressures that shape environmental practices of the two companies. The external pressures are mainly exerted by the government laws and regulations, on the other hand, the internal pressures are imposed mainly by the Sustainability department and the company's need to gain or maintain legitimacy. The findings also reveal a variety of users including operational managers, technical employees and health, safety and environmental department are also involved in generating environmental information however with Sustainability department pushes for such practices. The involvement of others in producing environmental information appeared to reduce the load on the sustainability department and could mean that lesser resources are needed to generating information; it can now focus more on analysis and on linking different information items to develop strategic insights. This is especially true for public listed company whereby sustainability unit now shifted their focus on developing and implementing five years sustainability plan.

Although it is much predictable that Sustainability department was being identified as both primary generator and recipient of environmental information, it is however raise the question whether this could indicate a lack of interest and involvement by other functions especially accountants since one way to achieve legitimacy is through accounting processes (Covaleski & Dirsmith, 1988; as cited in Tooley & Guthrie, 2007). The connection was made largely due to accounting being logical process with a set of procedures that will generate superior information that will leads to a more informed and rational decision-making in the selection of optimal organisational strategies. Finally, we would like to highlight that the findings from this pilot study are still at preliminary stage and it is part of a larger on-going research.

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