Research Journal of Applied Sciences, Engineering and Technology12(8): 885-899, 2016
DOI:10.19026/rjaset.12.2788
ISSN:2040-7459; e-ISSN: 2040-7467

Submitted: September 17, 2015 Accepted: October 30, 2015 Published: April 15, 2016

Research Article

Developing an Accountability Disclosure Index for Statutory Bodies: A Proposal

Nur Barizah Abu Bakar
College of Business, Alfaisal University, P.O. Box 50927, Riyadh, 11533, Kingdom of Saudi Arabia,
Tel.: +966112157969

Abstract: This study proposes a comprehensive disclosure index to measure the extent of disclosure of accountability information in statutory bodies' annual reports. The index is driven by the public accountability paradigm which establishes that a wide range of information need to be provided to various stakeholders. It is developed primarily based on a comprehensive review of the public sector disclosure literature, various reporting requirements and guidelines and a review of existing reporting practices. A comprehensive disclosure index which may be referred to as Accountability Disclosure Index (ADI) comprising 110 disclosure items was constructed. It consists of five categories (overview, governance, financial, performance and others) and 24 subcategories and adopted a binary and unweighted method of scoring. It has passed through the internal validity, reliability and pilot test.The index-either in its full form or with minor modifications-can be employed by future researchers across other equivalent semi-governmental bodies. The index can also be used by public managers to self-assess their disclosure level and benchmark against other entities. Also, stakeholders can evaluate the level of disclosure of statutory bodies, which in turn suggests the level of transparency and accountability discharged by these entities.

Keywords: Accountability, annual report, disclosure, index, statutory bodies, public sector, transparency

INTRODUCTION

Disclosure is an abstract concept which cannot be measured directly (Cooke and Wallace, 1989); nevertheless, surrogate measuring devices such as the disclosure index, practice index (Cheng, 1992), textual analysis (Clarke *et al*., 2009; Hoque, 2008) can be used to measure disclosure. Among these devices, disclosure index is one of the most commonly used in the Public Sector Disclosure (PSD) literature. Cooke (1991) pointed out that disclosure index comprises of items that are expressed as a ratio of the actual scores compared to the scores which are expected to be earned. It is primarily used to measure the occurrence or presence or richness of disclosed items (McCracken, 1988; Marston and Shrives, 1991) and to measure the relative level of disclosure by an entity.

Various approaches have been used in PSD studies in developing a disclosure index. An example is by incorporating the disclosure requirements as specified by various guidelines as provided by professional or regulatory bodies. Table 1 summarizes some of the approaches used by prior PSD studies in developing their index. Some authors have identified their index with specific labels such as the SPADI (School Performance Accountability Index) by Tooley and Guthrie (2007), the LGA index (Local Government Accountability Index) by Ryan *et al*. (2002b) and the MAD index (Modified Accountability Disclosure Index) by Coy *et al*. (1993b).

Most of the indexes are however used to measure certain aspects of reporting, such as financial reporting or performance reporting. There appear to be lack of index which is capable of measuring the disclosure of various types of information which is expected to be made available by public sector bodies by their stakeholders. This research therefore, will propose a more comprehensive disclosure index which addresses the need of various stakeholders, consistent with the public accountability paradigm. At the same time, there appear to be lack of index focusing on statutory bodies which are corporately-managed public entities, hence the gap to be filled by this study.

LITERATURE REVIEW

Public sector disclosure studies employing disclosure index: Among the earlier PSD studies using disclosure index to measure the disclosure level or quality is that by Singh and Bhargava (1978) in India which focused on quality of disclosure. Their disclosure index which was adapted from a private sector study by Singhvi and

Table 1: Summary of approaches used by prior studies to develop disclosure index

Approach	Example of studies using the approach
Stakeholder opinions or Delphi exercise	Coy and Dixon (2004) and Coy *et al*. (1993b)
Review of literature	Coy and Dixon (2004), Coy *et al*. (1993b), Gore (2004) and Robbins and Austin (1986)
Based on anticipated user needs	Giroux (1989)
Analysis of annual reports /current practice	Coy *et al*. (1994)
Guidelines provided by professional, authoritative and regulatory bodies	• IFAC-IPSAS (Pérez and López-Hernández, 2009) • Public Finance Act 1989 (Coy and Dixon, 2004) • Ministry of Education 1991 (Coy and Dixon, 2004) • Committee of Vice-Chancellors and Principals 1994 (Coy and Dixon, 2004) • New Zealand Society of Accountants (Coy and Dixon, 2004) • Department of Employment, Education and Training (DEET) 1994 (Coy and Dixon, 2004) • Performance Indicators Task Force 1989 (Coy and Dixon, 2004) • Australian Institute of Management 1984 (Lim and Mckinnon, 1993) • Parliament of New South Wales 1984 (Lim and Mckinnon, 1993) • US GAAP/GASB (Gore, 2004) • Standard & Poor's 1986 (Gore, 2004) • Treasury circulars (Azis, 2008; Ismail and Abu Bakar, 2011)
Adopt or adapt the disclosure index from prior studies	• Gordon *et al*. (2002) • Tooley and Guthrie (2007), Wei *et al*. (2008), Ryan *et al*. (2002b), Banks *et al*. (1997) and Nelson *et al*. (1997, 2003) employed Coy *et al*. (1993b) index • Ingram and Dejong (1987) employed Robbins and Austin (1986) index. • Dixon *et al*. (1991) adapted Gray and Haslam (1990) items.

Desai (1972) comprised of 36 items which was developed from literature as well as expert (comprising chartered accountants, financial experts and financial managers) opinions and suggestions. The findings of their study suggested no uniformity in the disclosure of information of 1972/3 annual reports of 40 Indian central trading and manufacturing public sector enterprises.

Another early study on public sector reporting is that by Gray and Haslam (1990) who examined the corporate reports (including financial statements and annual reports) of UK universities for five years from 1982/3 to 1986/7. They used a disclosure index which incorporated certain financial and performance indicators as suggested by the CVCP (1984, 1985). From their sample of 89 and 64% of the financial statements and annual reports of 60 universities, Gray and Haslam (1990) concluded that external forces had a marked effect on reporting practices.

Dixon *et al*. (1991) extended Gray and Haslam (1990) disclosure index by incorporating requirements by the New Zealand Society of Accountants (NZSA). They developed another index containing 52 items with 9 groups. By using a dichotomous and unweighted disclosure measurement approach, Dixon conducted a longitudinal study of a 5-year period (1985 to 1990) to assess any changes in disclosure within the period in the annual financial reports of seven New Zealand universities. Their results revealed a substantial improvement of two universities that were in line with NZSA and little or no change by the other five over the study period.

Not long after, Coy *et al*. (1993b) revised Dixon *et al*. (1991) index. Among the main changes made in their alternative accountability disclosure index (AD-score) was the scoring system itself. From a simple index using 'present or absent' scoring system, AD-score was made to include a 3-point qualitative scoring system (1 = poor, 3 = excellent) to reflect the quality of the disclosure of each item. Each item was also assigned a weight (1 = low importance and 3 = high importance) based on criteria such as whether the item is considered crucial to the achievement of accountability tenets. The AD-score index contains 43 items with 8 categories. Coy *et al*. (1993b) conducted a similar analysis to that of Dixon *et al*. (1991) by using both indexes on a larger sample of 33 New Zealand educational institutions. They found that the scoring systems were found to be significantly different in 1990 and that the disclosure level was approximately 10 percentage points lower when the AD-score index was used. The AD-score also changed the rankings of some of the universities.

The AD-score was then further revised by Coy *et al*. (1993a) and widely known as the Modified Accountability Disclosure (MAD) index. The index contained 26 items with 4 categories, namely overview, service performance, financial performance and physical and financial condition. Each disclosure was ranked on a 0 to 5 qualitative scale. The MAD index has since gained prominence in the context of public sector disclosure literature as it has been adapted and externally validated in different countries by other researchers including in Australia and Canada (Nelson *et al*., 1997), England (Banks *et al*., 1997), Canada (Banks and Nelson, 1994; Nelson *et al*., 2003) and Malaysia (Ismail and Abu Bakar, 2011). Besides that, although developed for the university setting, the MAD index was also adapted in different settings including schools (Tooley and Guthrie, 2007), museums (Wei *et al*., 2008) and local governments (Ryan *et al*., 2002b). The adoption arose due to "a common desire in these countries for information disclosures about the items in the MAD index" (Nelson *et al*., 1997, p. 39).

By way of illustration, Banks *et al*. (1997) employed the MAD index in their review of financial statements and annual reports of universities in England, Wales and Northern Ireland (EWNI) over the 1992 to 1994 period. The sample comprised of reports from 53, 59 and 73% of 84 universities for the years 1992, 1993 and 1994 respectively. They reported no statistically significant change throughout the years. When comparing their results with those from New Zealand (Coy *et al*., 1993b) and Canada (Banks and Nelson, 1994), the universities in EWNI were found to have lower disclosure levels than their counterparts in New Zealand but higher disclosures when compared to the Canadian universities.

Another similar study employing similar index is that by Nelson *et al*. (1997) who used the MAD index on universities in two countries, namely Australia and Canada for the 1993 to 1995 period. Their results appear to support that of Banks *et al*. (1997) where no significant changes are detected in both quantity and quality of disclosure over the study period.

In Canada, Banks and Nelson (1994) conducted a longitudinal study on financial disclosure by Ontario universities for a 6 year period from 1988 to 1993. By applying the MAD index on the presidents' annual report and audited financial statements of 16 universities, the study concluded that the universities' disclosure was consistent with the Canadian Association of University Business Officers (CAUBO, 1984) reporting guidelines but insufficient to be consistent with the accountability tenets developed in the Broadhurst (1993) and Gibbins *et al*. (1992) reports. A decade later, Nelson *et al*. (2003) tracked the universities disclosure from 1988 to 2000 also using the MAD index by using an annual sample of between 75 and 90% of 48 Canadian universities. Results for the first eight years of the study period corroborated the findings by earlier authors who used a similar index (Banks *et al*., 1997; Nelson *et al*. 1997).

As indicated earlier, the MAD index has also been adapted in different public sector settings. Ryan *et al*. (2002b) for example adapted it in the context of the local government in Queensland. Using the annual reports of the largest 36 councils as their data base, the results of the study indicated that although the quality of reporting by local governments has improved over time, councils generally do not report information on aspects of corporate governance, remuneration of executive staff, personnel, occupational health and safety, equal opportunity policies and performance information.

In Malaysia, Ismail and Abu Bakar (2011) analysed both the hardcopy annual reports and websites using the items listed in the TC4/2007 and selected items from the widely used MAD index. They evaluated the extent of accountability information disclosure of eleven Malaysian public universities. The findings revealed that accountability information disclosure was very low in the universities' websites compared to their annual reports. Disclosure of accountability information also appeared higher in the established universities' group compared to new universities.

Coy and Dixon (2004) then revised the index and named it the Public Accountability Index (PAI). Among the main differences between the MAD and PAI indices are that the latter is crafted with parametric statistical properties whereby it incorporates a polychotomous approach with a zero to infinity scale to assess items thus generating index numbers that have interval (or even ratio) properties. This enables the usage of parametric statistical analyses. Additionally, the PAI is regarded by its developers Coy and Dixon (2004) as a more comprehensive index than MAD and includes 58 items compared with 26 in the MAD-score. This is owed to the approach used to develop PAI that is, using stakeholder opinions captured via a Delphi exercise and driven by the public accountability perspective. Despite the claimed superiority of the PAI over the MAD index, Coy and Dixon (2004) found similar results of the PAI to the MAD-scores when applied to the 1996 and 2000 New Zealand university annual reports.

Besides the MAD and PAI indices, which can be regarded as a relatively widely-used index in PSD studies, other authors have also developed their own index to suit their scope of study. For example, following the approach of Coy and Dixon (2004) in developing PAI where a disclosure index is constructed through a participatory stakeholder consultation process, Schneider and Samkin (2008) applied a similar approach to assess the extent and quality of intellectual capital disclosures in the annual reports of the New Zealand local authorities. Applying their 26-item index which comprised of three categories, namely internal, external and human capital to the 2004/5 reports of 82 authorities showed that the intellectual capital reporting in the reports varied. Internal capital was the most reported category followed by external capital and finally human capital.

There are also authors who based their index on certain official documents, such as Pérez and López-Hernández (2009). They created an informational transparency index based on the minimum requisites for the information to be provided in the annual financial public report of MERCOSUR member countries (Argentina, Brazil, Uruguay and Paraguay), as recommended by the IFAC with reference to the International Public Sector Accounting Standards (IPSAS) references 1 and 2. The index is used to compare the index items with the public reports of 2006 of these four countries. It was discovered that the quality of these reports failed to meet IPSAS standards of information disclosure, suggesting the implementation of important changes involving the reports as well as its content.

Likewise, Herawaty and Hoque (2007) applied a disclosure index derived from the disclosure requirements issued by the Australian Department of Prime Minister and Cabinet on the "Requirements for annual report for departments, executive agencies and FMA Act bodies" to assess the 2005-2006 annual reports of 56 Australia government departments. The index, which comprises 47 mandatory and 20 voluntary items, is divided into eight broad categories. Voluntary disclosure level was found to be higher than the mandatory disclosure. Further, disclosure areas including human resources, asset management, external scrutiny, purchasing and contracting showed low levels of disclosure.

A study by Perez *et al*. (2008) based its index on both official guidelines as well as prior research. They combined between the approaches used by other authors. Interestingly, their sources for index development were derived from guidelines and research not only in the context of the public sector but also that of the private sector (e.g., International Accounting Standards Committee, Financial Accounting Standards Board), resulting in a tri-dimensional disclosure index comprised of information content, qualitative characteristics of information and accessibility. They examined the extent of financial information made available by 65 Spanish municipalities on their web sites during January 2007 and concluded that municipalities have not been sufficiently disclosing their financial information on the internet.

Following Perez *et al*. (2008) and Blanco *et al*. (2011) also constructed their index using prior research and official documents. The index which comprised of 53 items including mandatory items was used to evaluate the quality and quantity of information published in the annual reports and in the financial statements of Canadian local governments in 2003 with a comparison in 2005. The results showed an overall low disclosure index with significant improvements in 2005 compared to 2003 and significant differences across the country.

Unlike the above studies which used simple measures for their disclosure index, Robbins and Austin (1986) used both simple and compounded measures and compared their results. Based on 99 annual reports for the year 1981/2 of US cities, they provided evidence that regardless of whether simple or compound measure were used to measure the disclosure quality in government financial reports:

- City government form (mayoral versus manager/council).
- Reliance on debt.
- Reliance on federal funds remains significant variables.

From the preceding discussion, it can be concluded that the assessment of PSD remain to be receiving attention from public sector researchers. Nevertheless, there appear to be lack of index specifically catered for Statutory Bodies (SB) which is a form of semi-governmental bodies. This study will add to the current PSD literature by offering a comprehensive disclosure index specifically caters for statutory bodies which is lacking in the literature. This index nevertheless can also be applied on other equivalent semi-government bodies worldwide such as the executive agencies in the UK. As well, the index can be applied on other types of public entities such as the local governments and government departments, either in its full form or with slight modifications.

Public accountability paradigm and its implication on public sector annual reporting: Accountability is important to control the use and abuse of power. The importance of accountability in public sector has been summarised by Samaratunge *et al*. (2008) as follows:

> Accountability is an important means for establishing criteria to measure the performance of public officials and for creating oversight mechanisms, to ensure that the quality of public services is improved. Lack of accountability makes a state weak and its public management system dysfunctional. (p. 102).

Compared to the private sector, accountability in the public sector is a more ambiguous, complex, elusive, fragmented and heterogeneous concept (Greiling and Spraul, 2010; Ryan *et al*., 2002a). This is due to the multiple accountabilities, both to those internal and those external to the organisation as a result of the latter diversifying the interests and objectives of the former (Australian National Audit Office, 1997).

Public accountability is a concept that has primarily been discussed in the context of government entities (Kim, 2009; Ranson, 2003; see for example Abu Hasan and Abu Bakar, 2015). It connotes the answerability of public officials to the public for their actions and inactions for which they are subject to both external and internal sanctions (Romzek, 2000). It is based on the premise of 'right to know' by the society and as such relevant information is owed to the public (Coy *et al*., 2001; Pallot, 1992). For this reason, public accountability paradigm is a useful framework for public sector external reporting (Abu Hasan and Abu Bakar, 2015). It has been one of the commonly adopted frameworks in PSD research and in several cases has been used as the only framework (Tooley *et al*., 2010; Coy and Dixon, 2004; Ryan *et al*., 2002b). Many authors such as Coy *et al*. (2001) and Ijiri (1983) believed that public accountability is more suitable and relevant concept in the public sector compared to the decision-usefulness paradigm unlike in the case of private sector reporting (Nelson *et al*., 2003; Mack and

Ryan, 2006). Public accountability paradigm in fact accommodates the decision usefulness perspective.

The decision usefulness paradigm implies that organisations must only satisfy users who have specific (and primarily economic) decisions to make with respect to the reporting entity. This makes the decision usefulness paradigm less relevant to the public sector, given the relative elusiveness of the concept of ‘decision’ in the public sector. The public accountability paradigm takes away this unnecessary ‘decision usefulness’ constraint and hence argued to be better capable of addressing the widespread demand for greater accountability of public sector by the wider public. Hence, the audience of external reports under this paradigm consequently will not only include “all those for whom decision usefulness is relevant” (Coy *et al*., 2001), but also extends to a much more comprehensive group of stakeholders which include “all those with a legitimate economic, social, or political interest in the organisation” (Coy *et al*., 2001).

Public sector entities should be accountable to a wider public instead of focusing on those existing on the higher strata of the hierarchy. Coy *et al*. (2001, p.13) succinctly explained this issue by stating that these “entities are owned by the public, funded from the public purse, including private gifts and state appropriations and provide services to the community as a whole. For these reasons, the stakeholders include all members of the community”. Hence the key stakeholders of government agencies as comprising the parliament, government [particularly via the Departments of Finance and Administration, treasury and prime minister and cabinet], ministers, public service officers and the public (Bowrey, 2008). The reporting practice under this paradigm is fair for both parties, i.e., the accountor and accountee, as it allows public officials and institutions to explain and justify their acts and performance in managing public funds and hence avoid unjustified criticisms of public sector entities from a poorly uninformed public (Likierman, 1992, as cited in Coy *et al*., 2001). At the same time, it allows the public to get information they need concerning how their money is managed and spent.

The broad spectrum of shareholders means that the agencies are accountable to many sectors of society which thus necessitates a high degree of transparency and disclosure in their activities. Consequently, according to this paradigm, public accountability can be achieved through effective external reporting on conformance and performance against its objectives. In light of this, annual reports will serve as an important component of the overall public accountability framework (Tooley and Guthrie, 2007; Ryan *et al*., 2002b) as it is the only comprehensive statement available to all stakeholders on a routine basis (Boyne and Law, 1991; Coy *et al*., 2001). Annual reports are basically the yearly statements by a public sector entity required under some legislation or regulation and is also said to be the accountability acquittal required under the NPM (Christensen and Skærbæk, 2007). Lim and McKinnon (1993) mentioned that annual report regulations will considerably improve the level of responsibility of authorities to parliament and enhance their efficiency and effectiveness. Similarly, Nelson *et al*. (2003) maintained that the annual report is the cornerstone of public and parliamentary scrutiny and thus can be seen as an attempt to make the performance of the public sector auditable (Power, 1996). It has been regarded in the literature as the main medium of information dissemination in the public domain and therefore an accountability tool (Wei *et al*., 2008; Tooley and Guthrie, 2007; Wall and Martin, 2003).

Based on the public accountability paradigm, public organisations are expected to report “comprehensive information about the condition, performance, activities and progress to all those with social, economic and political interests” (Coy and Dixon, 2004). Coy *et al*. (2001) emphasised that a valuable annual report include “a wide range of summarised, relevant information in a single document, which enables all stakeholders to obtain a comprehensive understanding of [an entity’s] objectives and performance in financial and non-financial terms”. This bring into the picture the concept of accountability reporting or disclosure and accountability information as has been suggested by some authors (Nelson *et al*., 2003; Taylor and Rosair, 2000; Ismail and Abu Bakar, 2011; Banks *et al*., 1997; Coy *et al*., 1994, 1993b; Ryan *et al*., 2002b). This will be elaborated in the next section.

Accountability reporting or disclosure and accountability information: The accountability disclosure generally refers to a comprehensive public sector reporting. To date there remains no explicit definition regarding the term accountability reporting or disclosure despite its prior usage in a number of literatures where the term accountability disclosure for example has been used by Ryan *et al*. (2002b) and Taylor and Rosair (2000) while accountability reporting was used by Nichol and Taylor (2001) among others. Generally, accountability reporting or disclosure refers to the reporting of accountability information.

Similarly, accountability information has yet to be explicitly defined by those using the term although its meaning is quite apparent given the context of the literature in which the term was used. Readers understand the term through intuition. The term has been used by a number of authors including Ijiri (1983), Dixon *et al*. (1991), Nichol and Taylor (2001), Nelson *et al*. (2003), Coy *et al*. (2001) and Greiling and Spraul (2010). For the sake of clarification, it is important to provide a clear and explicit definition of these terms in order to provide a clear and consistent understanding.

Ijiri (1983) was apparently among the first to use the term accountability information stated that it may include positive or negative information about an entity. Dixon *et al*. (1991) stated that accountability information is a broad spectrum of information based on an accountability framework, which may include employee information, safety data and environmental effects. Consistent with these authors, Nichol and Taylor (2001) referred to accountability information as information that may help government in fulfilling or discharging their accountability. According to them, this requires public organisations to report not only their intended activities or statement of objectives, but also major decisions taken and the rationale for those decisions, the actual outputs and outcomes, explanation of the variances between the targeted and actual outputs and outcomes and the quality of internal controls of the organisation. Collectively, these considerations produce comprehensive reporting.

Coy *et al*. (2001) emphasized that the disclosure of accountability information is consistent with the public accountability paradigm which addresses the broad range of stakeholders who have vested interests in the well-being of the organisation. As accountability information may include both the positive and negative information as mentioned by Ijiri (1983), the accountor may not feel comfortable disclosing the accountability information as he/she is usually inclined to think that information disclosure should provide a good impression. When highlighting the criteria of a quality annual report, Coy *et al*. (2001) emphasized that the annual report value "rests in the provision of a wide range of summarized, relevant information in a single document, which enables all stakeholders to obtain a comprehensive understanding of a university's objectives and performance in financial and nonfinancial terms" (p. 14). Greiling and Spraul (2010) explained that accountability information in the public sector may have a symbolic function. It symbolises the competence of the supplier of the information and reaffirms their social virtue. In light of this, providing accountability information may help public bodies gain public confidence and trust.

Based on the literature reviewed thus far, the term 'accountability information' is defined in this study as:

A broad range of information about an organisation including its objectives, structure, financial, performance, governance and other information which enable all stakeholders to obtain a comprehensive understanding of an organisation in order to meet a public accountability perspective.

As accountability information covers various types of information, the reporting of it (i.e., accountability reporting or disclosure) would then accordingly cover broad aspects of reporting or disclosure. This may include financial reporting, performance reporting, governance reporting, social and environmental reporting, intellectual capital reporting and others. Accordingly, the discussion on accountability reporting in this study covers those aspects of reporting.

Most studies on public sector reporting concentrated on specific aspects of reporting with financial and performance reporting receiving greatest attention from public sector researchers (Ryan *et al*., 2002b). Financial reporting, besides being one of the most popular areas of research in public sector reporting literature, is also one of the earliest aspects of reporting to be studied. It continues to be widely researched (Pérez and López-Hernández, 2009; Bolívar *et al*., 2007). Disclosure of more comprehensive information by public sector bodies is important as the traditional financial reporting system is inadequate in providing a complete account of business and governmental activities (Marcuccio and Steccolini, 2009). As part of the public sector reform process which pushes for greater accountability and external disclosure (Marcuccio and Steccolini, 2005), public sector accounting and reporting needs to be partly reformed by introducing greater disclosure of both financial and nonfinancial reporting. The nonfinancial reporting includes the reporting on performance, governance, sustainability and intellectual capital among others. All these may be part and parcel of the accountability information and is provided on top of the financial information traditionally provided by organisations.

With regards to performance reporting, the importance of reporting them by public agencies has been widely recognised as part of the process of discharging accountability as suggested by Hyndman and Andersen (1995). Taylor and Pincus (1999, as cited in Nichol and Taylor, 2001) mentioned that by the mid 1990s, annual reporting of public agencies was expected to capture both compliance (financial) reporting and performance reporting, due to the shift of focus from fiduciary to wider managerial accountability. Providing financial accounts per se is not sufficient for public agencies to demonstrate their accountability. To a greater extent, Boyne and Law (1991) emphasised that accountability is simply a sham when performance data is not provided by public agencies. Wall and Martin (2003) for example, evaluated the voluntary KPI disclosure in the annual reports of numerous types of Irish public sector organisations, while Boyne and Law (1991) examined the disclosure of performance information in the annual reports of 165 Welsh local authorities.

At the same time, the development of reporting practices in the private sector has also become a push factor for public sector bodies to move forward beyond its traditional financial reporting practices. It can be observed that various reporting initiatives have taken place in the private sector both locally and internationally, which requires greater disclosure by corporations. An example is the Global Reporting Initiative (GRI) and in the Malaysian context, the Malaysian Code of Corporate Governance (MCCG). The MCCG, which was introduced and has in fact been revised for further improvement in 2007, requires public listed companies to disclose various governance-related information. In some ways this development has deprived public institutions of their leadership as guardians of the social and economic wellbeing of its citizens as pointed out by Marcuccio and Steccolini (2009). Several authors (Marcuccio and Steccolini, 2009) contended that in the public sector, addressing such issues as environmental, social and sustainability issues should be part of the official external reporting. As a result, another aspect of reporting which has seen increased attention in recent years is sustainability reporting which includes social and environmental reporting (Mussari and Monfardini, 2010; Joseph, 2010; Joseph and Taplin, 2012; Joseph, 2011; Lynch, 2010; Marcuccio and Steccolini, 2005; Gibson and Guthrie, 1995; Burritt and Welch, 1997; Marcuccio and Steccolini, 2009). Given their size and influence, public agencies are expected to lead by example in reporting publicly and transparently on their activities to promote sustainability, as the public agencies also have a major impact on national and global progress towards sustainable development. An example of such studies is Marcuccio and Steccolini (2009) who investigated the patterns in the content of social reporting by 15 Italian local authorities.

There are a number of other areas of reporting that are studied in the context of public sector research that remain unknown to the specialists as they have received lesser attention. These include governance reporting (Ryan and Ng, 2000), intellectual capital reporting (Schneider and Samkin, 2008) and infrastructure assets reporting (Lee and Fisher, 2004). In the case of governance reporting, as argued by Ryan and Ng (2000), the debate and literature on governance issues in the public sector has been relatively fragmented and limited. It is important for public sector agencies to provide "comprehensive information on their governance framework and practices in annual reports" although it may not be a statutory requirement as highlighted in one of the corporate governance document issued by the Queensland Audit Office (1999). Ryan and Ng (2000) shared the Australian experience where public agencies are recognised for their governance information disclosure through the giving of awards for best corporate governance disclosure. Unlike in private sector literature, little is known concerning governance in the public sector. This is unfortunate given the importance of governance in the public sector as the cornerstone to sound stewardship, effective management and attainment of performance objectives (Australian National Audit Office, 1997).

Public bodies must be transparent in their organisations' activities and performance to allow stakeholders to assess their accountability level (Abu Bakar *et al*., 2011). Here a link is made between transparency, disclosure and accountability. When discussing the relationship between transparency, disclosure and accountability, it is important to better understand the concept of transparency. By definition, transparency is "the extent to which all … stakeholders have a shared understanding of and access to ... the information they request, without loss, noise, delay and distortion" (Hofstede, 2003; quoted in Papenfuß and Schaefer, 2010, p.18). Transparency also refers to "a process by which information about existing conditions, decisions and actions is made accessible, visible and understandable" (Working Group on International Financial Crisis, 1998). Operationally, according to Ho and Wong (2001), it refers to voluntary disclosure in addition to the already mandated disclosure. This is specifically how the concept of transparency is related to disclosure. On the other hand, the notion of the link between disclosure and accountability is supported by many other authors. Dixon *et al*. (1991) for example stated that better disclosure increases accountability to stakeholders. Ferlie and Pollitt (2005) also agreed that disclosure of information was the main means to provide wider and better accountability to the public. Consistent with this, according to Marcuccio and Steccolini (2005), many public bodies are trying to improve accountability through wider public disclosure.

From the preceeding discussion, this paper therefore adopts the public accountability paradigm as it recognises the entitlement by a diverse group of stakeholders to comprehensive information of a reporting entity from the annual report produced by the respective entity. The paradigm is useful mainly to develop the disclosure index which will be used to measure the extent of disclosure. In short, public accountability should be an important agenda in public sector organisations. Its reporting has been explained as one mechanism by which this agenda can be achieved and fulfilled and as such should be given its due importance among public entities. From the preceding discussion, it is clear that annual reports serve as one of the most important public accountability mediums. Abu Bakar *et al*., 2011).

DISCLOSURE INDEX DEVELOPMENT

The disclosure index developed in this study will measure the extent of disclosure of accountability information in the annual reports of statutory bodies. The 'extent' is defined here as the total amount of disclosure in order to measure the 'how much' component of the first research question. It does not cover the quality aspect of the disclosure. In other words, the study identifies the presence of the disclosure items in the annual reports. This means once an instance is found for a particular checklist item, the search would immediately stop for that item. The presence or existence, instead of frequency of occurrence, of data is applied.

Secondly, the index adopts the dichotomous or binary method of scoring each disclosure item. This method is chosen instead of the polychotomous or qualitative scale method (Coy and Dixon, 2004; Coy *et al*., 1993b, 1994; Robbins and Austin, 1986; Ryan *et al*., 2002b) as this study is interested in determining the presence of information and extent of disclosure and not in the quality or value of disclosure. The binary method is also consistent with many prior studies (Robbins and Austin, 1986; Ismail and Abu Bakar, 2011; Dixon *et al*., 1991; Gordon *et al*., 2002; Gore, 2004; Ingram and DeJong, 1987; Lim and Mckinnon, 1993; Tooley and Guthrie, 2007).

Thirdly, the study adopted the unweighted approach for scoring each of the disclosure items therefore assuming that all items are equally important. This method was used in many previous studies (Gandía and Archidona, 2008; Wei *et al*., 2008; Ismail and Abu Bakar, 2011; Cooke, 1989). There are at least three important reasons for choosing this approach instead of the weighted index. Firstly, the scoring bias that may be associated with the arbitrary assignment of weight to each disclosure item. This reason is exacerbated with the lack of previous studies on disclosure (Wei *et al*., 2008) related to statutory bodies. It is presumed that the subjectivity of arbitrarily assigning weight to items is relatively higher than the subjectivity of assuming that all items are equally important. Secondly, there are difficulties in conducting the practitioners' and users' weighting process (Wei *et al*., 2008). This is assuming that weights are not arbitrarily assigned but rather based on empirical studies that gather the users' perception on the importance of each disclosure item through survey for example. Time and cost factors limit the ability to conduct such surveys. Thirdly, there is a lack of material increase in explanatory power nor additional value found in the results of prior studies using weighted index when they use a duplicate sets of data and test them using an unweighted index (Firth, 1980; Gordon *et al*., 2002; Robbins and Austin, 1986; Ryan *et al*., 2002b). This is despite the claim that a weighted index is superior and intuitively more appealing than an unweighted index (Botosan, 1997).

Consistent with Ismail and Abu Bakar (2011), the Total Disclosure (TD) score is mathematically expressed as follows:

$$TD = \sum d_i$$

where,

TD = Total disclosure for a statutory body.
d = 1, if the item d_i is disclosed.
d = 0, if the item d_i is not disclosed.

The disclosure index for each organisation is equal to TD/n, where *n* is the number of items (i.e., 110). To provide for comparability among organisations, each organisation's measure is converted into a percentage (i.e., 100%).

All the steps undertaken in the study were firstly examined via a pilot study, which will be detailed in a later section. This was to ensure the robustness of the disclosure index instrument developed in the paper.

Steps involved in the development of the disclosure index: The index is developed based on the public accountability paradigm which regard that the society-and not only those who need to make certain decision (primarily economic)-has the right to information. As there is no agreed theoretical framework or guidelines on the number and the selection of items to be included in a disclosure index (Wallace *et al*., 1994), this study has employed six steps in developing the disclosure index:

Step 1: The study reviewed the disclosure requirements in the TC4/2007. This Circular is on the "Guideline for Preparation and Presentation of Annual Reports and Financial Statements of Statutory Bodies" (Treasury, 2007). The Circular classified the disclosure requirements into 8 main categories, namely:

- Corporate information.
- Background of statutory bodies.
- Chairman report.
- Report on government assistance.
- Analysis on financial performance.
- Performance report.
- Audited financial statements.
- Other information.

This study carefully decomposed the disclosure requirements within each category and transformed them into specific disclosure items. From this process, a total of 107 items were extracted. Following that, the disclosure items were translated into English as the circular is in Bahasa Melayu (the Malay language).

In the subsequent steps, changes are made to the disclosure items where some existing items are removed while some others are added. This is made based on the premise that there is a deficiency of using information containing only required disclosure items (Copeland and Ingram, 1983). Therefore, consistent with Robbins and Austin (1989) and Allen and Sanders (1994), several items were selected for inclusion in the disclosure index on the basis that they are being useful, but not currently required to be disclosed by TC4/2007. In the following steps, the selection of item was made based primarily on anticipated user needs of accountability information (Giroux, 1989). At almost each step, the existing eight categories are revised accordingly. Besides that, subcategories are also introduced by classifying the items into subgroups so as to produce a more meaningful index.

Step 2: Modifications of disclosure items were made to the index developed in step 1 based on a review made of other Malaysian statutory requirements including the General Circular Letter No. 6 of 2004[1] (Prime Minister's Department, 2004), the Development Administration Circular No. 2 of 2005[2] (Prime Minister's Department, 2005), the Malaysian Code on Corporate Governance[3] (Securities Commision, 2007) and Treasury Circular Number 10 of 2008[4] (Treasury, 2008). The recommendation of the IFAC Public Sector Committee (IFAC Public Sector Committee, 2001) has also been incorporated. Among the additions made in this step is the inclusion of additional financial ratios and governance items. New categories such as the governance category are also being included into the index.

Step 3: Additional modifications to the disclosure items were made to the disclosure index developed in step 2 based on a thorough inspection of other relevant public sector disclosure indexes in the prior studies (Coy and Dixon, 2004; Gray and Haslam, 1990; Herawaty and Hoque, 2007; Joseph, 2010; Lim and Mckinnon, 1993; Schneider and Samkin, 2008; Ryan *et al*., 2002b; Tooley *et al*., 2010; Wall and Martin, 2003; Wei *et al*., 2008). Additional items such as staff recognition through awards and new categories such as human resource are at this point introduced.

Step 4: Few more items were considered based on a review of the statutory bodies' annual reports. This is consistent with the approach taken by Tooley *et al*. (2010). An example is the item governing ministry and the respective Minister's message. Categories and subcategories remain as it is here.

Step 5: Modifications to remove items that may not be applicable to some statutory bodies were then made. The applicability of an item may be determined by understanding the overall business of the respective statutory bodies through their annual report and/or website. This is necessary so as to avoid penalising statutory bodies which do not disclose items not applicable to them. For example, items related to branch or subsidiaries were removed as not all statutory bodies have branches/subsidiaries. Furthermore, all items related to government assistance were also removed as not all statutory bodies receive financial assistance. In this step, a combination of analysis of the available annual reports (Tooley *et al*., 2010), intuition, trial and error and judgement were undertaken, consistent with Dixon *et al*. (1991). Although this approach may introduce subjectivity, this is important to ensure the relevance of disclosure items to all statutory bodies and to achieve number of disclosure items that is within a reasonable limit. Categories and subcategories are again revised at this step due to the removal of the disclosure items. Example is the removal of report on government assistance category.

Step 6: The draft index was sent to six experienced researchers in public sector disclosure. The experienced researchers were from Australia (1), New Zealand (1), US (1) and Malaysia (3). The aim is to internally validate the general framework of the index regarding the scoring system and the adopted categories and to determine the clarity of the index (Coy and Dixon, 2004). As a result, the index was further modified to incorporate their comments which include elimination of items which may result to double counting and reclassification of items into different categories. Additional modifications were made to the labels (names) given to categories and subcategories as well as the disclosure items themselves to enhance their clarity. The outcome of this step is 110 accountability disclosure items.

A list of 110 disclosure items was finalised. The disclosure index is divided into five categories and 24 subcategories. The categories are (i) overview, (ii) governance, (iii) financial, (iv) performance and (v) others. To avoid confusion with indices used in other studies, the index constructed may be referred to as the Accountability Disclosure Index or ADI. The full index is shown in Table 2.

Trial analysis of disclosure index: Pilot study has been conducted to ensure the robustness of the disclosure index instrument developed in this study. The pilot study is also for the purpose of examining the disclosure measurement. The ADI was pretested on 11 of the annual reports of 111 Malaysian federal statutory bodies, representing 10% of the effective population. This is consistent with prior studies such as Gordon *et al*. (2002) that included 10 annual reports of their 100 sample (i.e., 10%) for pretesting purposes.

In the case of statutory bodies, their accountability obligations are extensive and must address multiple information dimensions (financial, performance, governance, etcetera) due to their impact on the lives of many citizens, both as service recipients and the providers of the large amounts of public resources consumed. In the context of statutory bodies, Given its autonomy there should be concern about their ability to balance between discharging public accountability and acting independently based on the autonomy given.

Table 2: Disclosure index or checklist and its sources

Category	Subcategory	No.	Disclosure item	Main source
Overview	Background of annual report	1	Content page	Herawaty and Hoque (2007)
		2	Index/glossary	Herawaty and Hoque (2007) and Gandía and Archidona (2008)
		3	Statutory process timeliness: annual report submission to Minister/Parliament	Lim and McKinnon (1993)
		4	Public accountability timeliness: annual report publication	Coy *et al*. (1994)
	Access information	5	Address of registered office	TC4-2007, Gandía and Archidona (2008)
		6	Contact information (Telephone/fax/email)	Lim and McKinnon (1993), Gandía and Archidona (2008), Tooley and Guthrie (2007) and Nelson *et al*. (2003)
		7	Webpage	Herawaty and Hoque (2007)
		8	Business hours	Lim and McKinnon (1993)
	Background of statutory bodies	9	Year of establishment	Gray and Haslam (1990)- implicit (history)
		10	Parliamentary act under which statutory bodies was established	TC4-2007
		11	Governing ministry	Review of MFSB annual report
		12	Role/ function/ main activities	TC4-2007
	Company objectives and philosophy	13	Vision and Mission	Ryan *et al*. (2002a)
		14	Values/ethics/philosophy	Schneider and Samkin (2008)
		15	Aims/goals/objectives	TC4/2007, Ryan *et al*. (2002b)
		16	Client charter	Lim and McKinnon (1993)
	Corporate information	17	Organisation chart	TC4-2007
		18	Chairman: name	TC4-2007
		19	Chief Executive: name	TC4-2007
		20	External auditor	TC4-2007
		21	Main bank(s)	Review of MFSB annual report
		22	Main lawyer(s)	Review of MFSB annual report
		23	List of main events in the year	TC4-2007
	Chairman and CEO messages Chairman message (Tooley and Guthrie, 2007)	24	Overall comments on programmes, activities and projects (PAP) of MFSB	TC4-2007
		25	Achievements and financial status of PAP of MFSB and compare with previous years	TC4-2007
		26	Events that influence the performance of PAP of MFSB	TC4-2007
		27	Future prospects and corporate strategies	TC4-2007
		28	Growth and development of PAP	TC4-2007
		29	Acknowledgement to contributors of the statutory bodies success	TC4-2007
		30	Minister message	Review of MFSB annual reports
		31	Chief executive message	Herawaty and Hoque (2007)
	Board of directors	32	BOD: members' name	TC4-2007
		33	BOD: secretary	Lim and McKinnon (1993)-implicit
		34	BOD: organisation represented	Lim and McKinnon (1993)-implicit
		35	BOD: members' term end/start	Lim and McKinnon (1993)-implicit
	Senior executives	36	Senior management: name and designation	TC4/2007, Herawaty and Hoque (2007)
		37	Senior management: education and qualification	Schneider and Samkin (2008)
		38	Senior management: skils and experience (know-how)	Schneider and Samkin (2008)
Governance	Board of directors governance	39	BOD: members' education and qualification	MCCG
		40	BOD: members' skills and experience of nonexecutive director	MCCG
		41	BOD: number of meetings per year	MCCG
		42	BOD: meeting dates	TC4-2007
		43	BOD: attendance summary	TC4-2007
		44	BOD: meeting attendance of each individual director	MCCG
		45	BOD: renumeration policy or total amount	Ryan *et al*. (2002b)
		46	BOD: renumeration amount listed by person	MCCG
	Senior management governance	47	SM: renumeration amount of CEO	Ryan *et al*. (2002b)
		48	SM: renumeration amount of other senior executives (total or individual)	IFAC Public Sector Committee (2001) and Schneider and Samkin (2008)
		49	SM: how nature and amount of renumeration of senior executives is determined	Herawaty and Hoque (2007)
	Financial management and account committee	50	FMAC: members' name	TC10-2008
		51	FMAC: required number of meetings	TC10-2008
		52	FMAC: number of meetings	TC10-2008
		53	FMAC: effectiveness of FMAC in handling financial issues	TC10-2008
	Internal audit	54	Review and/or appraisal on effectiveness of risk management	MCCG, Herawaty and Hoque (2007) and Ryan and Ng (2000)
		55	Review/appraisal of internal control systems	MCCG, Ryan *et al*. (2002a) andRyan and Ng (2000)
Financial	Audited financial statements	56	Balance sheet	TC4-2007, Pérez and López-Hernández (2009), Stanley *et al*. (2008) and Tooley and Guthrie (2007)
		57	Income statement	TC4-2007, Pérez and López-Hernández (2009) and Tooley and Guthrie (2007)
		58	Statement of changes in equity	TC4-2007, Pérez and López-Hernández (2009)
		59	Cash flow statement	TC4-2007 Pérez and López-Hernández (2009), Perez *et al*. (2008) and Tooley and Guthrie (2007)
		60	Notes to the financial statement	TC4-2007, Pérez and López-Hernández (2009) and Tooley and Guthrie (2007)

Table 2:Continue

	Accompanying certificate and statement	61	Auditor general certificate	TC4-2007, Perez *et al*. (2008)
		62	Statement of Chairman and a Board member for the Group accounts	TC4-2007
		63	Statutory declaration by the officer primarily responsible for the financial mgmt	TC4-2007
		67	Comparison figures/charts: on noncurrent liabilities	TC4-2007
		68	Comparison figures/charts: on sales/receipts and gross profit margin	TC4-2007
		69	Comparison figures/charts: on surplus/deficit or profit/loss	TC4-2007
	Financial RATIOS (Stanley *et al*., 2008), (Tooley and Guthrie, 2007)	70	Current ratio (Current assets/Current liabilities)	GC6-2004
		71	Liquidity ratio (Liquid assets/Current liabilities)	GC6-2004
		72	Debt asset ratio (Total debt/Total assets)	TC-2007, GC-2004
		73	Proprietor's ratio (Total equity / total liability)	GC6-2004
		74	Total equity/total fixed asset	GC6-2004
		75	Assets turnover ratio	TC4-2007
Performance	Key performance indicators	76	Key Performance Indicators	DAC2-2005
		77	Compare targeted KPI and actual achievement (in figure/percentage)	Wall and Martin (2003)
	Customer/employee satisfaction indicator	78	Customer satisfaction	Tooley *et al*. (2010) and Wei *et al*. (2008)
		79	Staff satisfaction	Wei *et al*. (2008)
		80	No. of complaints received on MFSB	Lim and McKinnon (1993)
		81	No. of valid complaints resolved	MAMPU (2002)
	Overview of program/activities/projects (pap)	82	Objective and description of each PAP	TC4-2007
		83	Implemetation progress of each PAP	TC4-2007
		84	Problems e ncountered in the implementation	TC4-2007
		85	Factors (internal/external)influencing current performance	TC4-2007
		86	Future plans	TC4-2007
	Performance measures on pap	87	Input: Financial resources	Tooley *et al*. (2010) and Smith (2004)
		88	Input: Non-financial resources applied to a PAP	Tooley *et al*. (2010) , Marcuccio and Steccolini (2009) and Smith (2004)
		89	Output	Tooley *et al*. (2010), Marcuccio and Steccolini (2009) and Smith (2004)
		90	Impact	TC4/2007, Tooley *et al*. (2010) and Marcuccio and Steccolini (2009)
		91	Efficiency	Tooley *et al*. (2010), Marcuccio and Steccolini (2009) and Gordon *et al*. (2002)
		92	Effectiveness	Tooley *et al*. (2010)
		93	Productivity	MPC (2008)
		94	Compare between actual and target performance	Tooley *et al*. (2010) and Tooley and Guthrie (2007)
		95	Compare between current and previous year	Tooley *et al*. (2010),
Others	Human resource	96	Statistics on staffing (e.g.total staff, vacancies)	Herawaty and Hoque (2007)
		97	Workforce planning, staff turnover and retention	Herawaty and Hoque (2007)
		98	Equal opportunity employment (e.g. staff by race/gender/age)	Coy and Dixon (2004), Tooley and Guthrie (2007), Ryan *et al*. (2002b), Schneider and Samkin (2008) and Tooley and Guthrie (2007)
		99	Statstics on training and development courses/programmes for staff	Herawaty and Hoque (2007) and Schneider and Samkin (2008)
		100	Achievements/impact of staff training and development activities (general/each)	Tooley *et al*. (2010)
		101	Staff recognition through awards/rewards/titles	Herawaty and Hoque (2007)
		102	Staff recognition: Names of awards/titles/rewards recipients	Herawaty and Hoque (2007)
	Socio-environmental	103	Internal/external social responsibility efforts/activities	Joseph (2010)
		104	Financial information on social responsibility issues (budget/cost)	Joseph (2010)
		105	Internal/external environmental protection efforts/activities	Joseph (2010)
		106	Financial information on environmental issues (budget/cost)	Joseph (2010)
	Properties/main assets Tooley and Guthrie (2007)	107	List of main assets: location	TC4-2007
		108	List of main assets: ownership	TC4-2007
		109	List of main assets: size (area)	TC4-2007
		110	List of main assets: description/type	TC4-2007

This perhaps poses extra challenges to the statutory bodies management. With regards to this, Guthrie (1993) commented that the traditional public sector accountability is compromised when the corporate form is used in public sector agencies as greater attention is given to its commercial rather than its social objectives. Consistent with this, several authors have highlighted that there has been notable changes in accountability focus and mechanisms as NPM been introduced (Christensen and Skærbæk, 2007). Monfardini (2010), in analysing the effect of NPM-based reforms on public accountability, identified disclosure as an NPM strategy that can be used by public sector bodies to enhance their public accountability. He further argued that:

> Together with performance, transparency appears to be the key principle of accountability; the loss of legitimacy faced by public organisations in many countries pushes politicians to disclose more information in order to regain citizen confidence (p. 633).

Table 3: Disclosure level of accountability information

No.	Statutory Bodies	Disclosure index
1	SB1	40.87
2	SB11	41.74
3	SB21	46.96
4	SB31	33.91
5	SB41	50.43
6	SB51	53.91
7	SB61	40.87
8	SB71	48.70
9	SB81	43.48
10	SB91	37.39
11	SB111	42.61

Table 3 shows the extent of disclosure of accountability information in the annual reports of all 11 statutory bodies using the disclosure index. Results from the pilot test suggested that no change should be made to the items included in the disclosure index instrument. The instrument is able to capture the various levels of disclosure exist in different statutory bodies.

Reliability test on the disclosure index: To address the issue of subjectivity inherent in the analysis of annual reports (Steenkamp and Northcott, 2007), two scorers were used. This process is to ensure the reliability of the disclosure index instrument and the data collected from the annual reports. One scorer is the researcher herself, while the other is an experienced public sector accounting researcher who has conducted and published a similar type of analysis on annual reporting. The other scorer was provided with the 11 randomly selected annual reports of statutory bodies together with the coding sheet. This is consistent with Gordon *et al*. (2002) who took 10 samples of annual reports. Both scorers independently examined the text and comparisons were then made. There was no statistically significant difference between scores. Hence, this index can be regarded as reliable.

CONCLUSION

The disclosure index for statutory bodies was developed based on the public accountability paradigm. As a result, it contains disclosure items covering various types of information regarded as important by either literatures or regulatory authorities for statutory bodies in discharging their accountability to their stakeholders.

Studies have raised concern on the lack of users of the report or little public interest in it (Nelson *et al*., 2003). Despite this, Likierman (1992, as cited by Nelson *et al*. (2003)) argued that the public interest and disclosure quality is really a ‘chicken and egg’ situation where poor-quality reports themselves may cause a lack of stakeholder interest. Hence, the problem can be eventually overcome by increasing the quality of disclosure and by addressing more stakeholders. Sinclair (1995) reinforced this by arguing that for annual reports to be effectively achieving its broad accountability purpose, managers of reporting agencies should target their disclosures much more directly towards the general citizens and broader group of audiences. Unfortunately, studies have found that annual reports are less directed towards stakeholders besides those within the government itself (Taylor and Rosair, 2000).

The disclosure index developed by this study can be employed-either in its full form or with slight modifications-by future research conducted on semi-governmental bodies such as the statutory authorities in Australia and the executive agencies in the UK. Both cross-sectional and longitudinal studies can be conducted. From there, determinants of the extent of disclosure can then be examined. As well, reasons for disclosure or nondisclosure of certain items can also be explored using qualitative approach of interview. Studies on other types of public sector entities such as local government can also attempt to apply this index for comparative purposes.

ACKNOWLEDGMENT

My heartfelt appreciation goes to the International Islamic University and the University of Malaya for their generosity in funding this project. I am also indebted to the participants and panellists in the 13th Comparative International Governmental Accounting Research (CIGAR) Conference held on the June 9-10, 2011, in Ghent, Belgium, for their constructive feedbacks, especially Prof David Heald.

REFERENCES

Abu Bakar, N.B., Z. Saleh and M.H.S. Mohamad, 2011. Enhancing Malaysian public sector transparency and accountability: Lessons and issues. Eur. J. Econ. Financ. Admin. Sci., 31: 133-145.

Abu Hasan, H. and N.B. Abu Bakar, 2015. Public Sector Accounting. In: Idris, A., S. Moghavvemi and G. Musa (Eds.), Selected Theories in Social Science Research. UM Press, Kuala Lumpur, pp: 137-150.

Australian National Audit Office, 1997. Applying Principles and Practice of Corporate Governance in Budget Funded Agencies. Discussion Paper, Australia.

Banks, W. and M. Nelson, 1994. Financial disclosures by Ontario universities: 1988-1993. J. Int. Account. Audit. Tax., 3(2): 287-305.

Banks, W., J. Fisher and M. Nelson, 1997. University accountability in England, wales, and Northern Ireland: 1992-1994. J. Int. Account. Audit. Tax., 6(2): 211-226.

Blanco, H., J. Lennard and S. Lamontagne, 2011. Annual reporting and accountability by municipalities in Canada: An empirical investigation*. Account. Perspect., 10(3): 195-224.

Bolívar, M.P.R., C.C. Perez and A.M. López-Hernández, 2007. E-Government and public financial reporting: The case of Spanish regional governments. Am. Rev. Public Adm., 37(2): 142-177.

Botosan, C.A., 1997. Disclosure level and the cost of equity capital. Account. Rev., 72(3): 323-349.

Bowrey, G., 2008. Keeping up appearances: The quest for governance legitimacy. Account. Accountabil. Perform., 14(1): 1-31.

Boyne, G. and J. Law, 1991. Accountability and local authority annual reports: The case of Welsh district councils. Financ. Accountabil. Manage., 7(3): 179-194.

Broadhurst, W.H., 1993. University Accountability: A strengthened framework. The Task Force on University Accountability, Toronto.

Burritt, R.L. and S. Welch, 1997. Annual reports of Australian Commonwealth authorities: An analysis of their environmental disclosures. Abacus, 33: 69-87.

CAUBO, 1984. The guide to accounting principles, practices and standards of disclosure for universities and colleges of Canada. Canadian Association of University Business Officers (CAUBO), Ottawa.

Cheng, R.H., 1992. An empirical analysis of theories on factors influencing state government accounting disclosure. J. Account. Public Pol., 11(1): 1-42.

Christensen, M. and P. Skærbæk, 2007. Framing and overflowing of public sector accountability innovations: A comparative study of reporting practices. Account. Audit. Accountabil. J., 20(1): 101-132.

Clarke, D.P., S.L. Hrasky and C.G.T. Tan, 2009. Voluntary narrative disclosures by local governments: A comparative analysis of the textual complexity of mayoral and chairpersons' letters in annual reports. Aust. J. Publ. Admin., 68(2): 194-207.

Cooke, T.E., 1989. Disclosure in the corporate annual reports of Swedish companies. Account. Bus. Res., 19(74): 113-124.

Cooke, T.E., 1991. An assessment of voluntary disclosure in the annual reports of Japanese corporations. Int. J. Account., 26: 174-189.

Cooke, T.E. and R.S.O. Wallace, 1989. Global surveys of corporate disclosure practices and audit firms: A review essay. Account. Bus. Res., 20(77): 47-57.

Coy, D. and K. Dixon, 2004. The public accountability index: Crafting A parametric disclosure index for annual reports. Brit. Account. Rev., 36(1): 79-106.

Coy, D., G. Tower and K. Dixon, 1993b. Quantifying the quality of tertiary education annual reports. Account. Financ., 33(2): 121-129.

Coy, D., G. Tower and K. Dixon, 1994. Public sector reform in New Zealand: The progress of tertiary education annual reports, 1990-92. Financ. Account. Manage., 10(3): 253-261.

Coy, D., M. Fischer and T. Gordon, 2001. Public accountability: A new paradigm for college and university annual reports. Crit. Perspect. Account., 12(1): 1-31.

Coy, D.V., K. Dixon and G. Tower, 1993a. The 1992 Annual Reports of Tertiary Education Institutions: Quality, Timeliness and Distribution. Working Paper No. 18, University of Waikato, Hamilton, New Zealand.

CVCP, 1984. Guidance on Recommended Accounting Practice in UK Universities. Committee of Vice-Chancellors and Principals (CVCP), London.

CVCP, 1985. Report of the Steering Committee for Efficiency Studies in Universities (the 'Jarrat Report'). Committee of Vice-Chancellors and Principals (CVCP), London.

Dixon, K., D. Coy and G. Tower, 1991. External reporting by New Zealand universities 1985-1989: Improving accountability. Financ. Accountabil. Manage., 7(3): 159-178.

Ferlie, E. and C. Pollitt, 2005. The Oxford Handbook of Public Management. Oxford University Press, Oxford.

Firth, M., 1980. Raising finance and firms' corporate reporting policies. Abacus, 16(2): 100-115.

Gandía, J.L. and M.C. Archidona, 2008. Determinants of web site information by Spanish city councils. Online Inform. Rev., 32(1): 35-57.

Gibbins, M., A.J. Richardson and J. Waterhouse, 1992. The management of financial disclosure: Theory and perspectives. Canadian Certified General Accountants' Research Foundation, Vancouver.

Gibson, R. and J. Guthrie, 1995. Recent environmental disclosures in annual reports of Australian public and private sector organisations. Account. Forum, 19(2): 111-127.

Giroux, G., 1989. Political interests and governmental accounting disclosure. J. Account. Public Pol., 8(3): 199-217.

Gordon, T., M. Fischer, D. Malone and G. Tower, 2002. A comparative empirical examination of extent of disclosure by private and public colleges and universities in the United States. J. Account. Public Pol., 21(3): 235-275.

Gore, A.K., 2004. The effects of GAAP regulation and bond market interaction on local government disclosure. J. Account. Public Pol., 23(1): 23-52.

Gray, R. and J. Haslam, 1990. External reporting by UK universities: An exploratory study of accounting change. Financ. Accountabil. Manage., 6(1): 51-72.

Greiling, D. and K. Spraul, 2010. Accountability and the challenges of information disclosure. Public Admin. Quart., 34(3): 338-377.

Guthrie, J., 1993. Australian public business enterprises: Analysis of changing accounting, auditing and accountability regimes. Financ. Accountabil. Manage., 9(2): 101-114.

Herawaty, M. and Z. Hoque, 2007. Disclosure in the annual reports of Australian government departments: A research note. J. Account. Organ. Change, 3: 147-168.

Ho, S.S.M. and K.S. Wong, 2001. A study of the relationship between corporate governance structures and the extent of voluntary disclosure. J. Int. Account. Audit. Tax., 10(2): 139-156.

Hofstede, G.J., 2003. Transparency in Netchains. In: Harnos, Z., M. Herdon and T.B. Wiwczaroski (Eds.), Information Technology for a Better Agri-food Sector, Environment and Rural Living. Proceeding of EFITA 2003 Conference. Debrecen, June 17-29.

Hoque, Z., 2008. Measuring and reporting public sector outputs/outcomes: Exploratory evidence from Australia. Int. J. Public Sector Manage., 21(5): 468-493.

Hyndman, N.S. and R. Anderson, 1995. The use of performance information in external reporting: An empirical study of UK executive agencies. Finan. Accountabil. Manage., 11(1): 1-17.

IFAC Public Sector Committee, 2001. Governance in the Public Sector: A Governing Body Perspective. International Federation of Accountants, New York.

Ijiri, Y., 1983. On the accountability-based conceptual framework of accounting. J. Account. Public Pol., 2(2): 75-81.

Ingram, R.W. and D.V. DeJong, 1987. The effect of regulation on local government disclosure practices. J. Account. Public Pol., 6(4): 245-270.

Ismail, S. and N.B. Abu Bakar, 2011. Reporting practices of Malaysian public universities: The extent of accountability disclosure. Afr. J. Bus. Manag., 5(15): 6366-6376.

Joseph, C., 2010. Content analysis of sustainability reporting on Malaysian local authority websites. J. Admin. Sci., 7: 101-125.

Joseph, C., 2011. Factors influencing the non-disclosure of sustainability information on Malaysian district councils' websites within an institutional theory framework. Soc. Manage. Res. J., 8: 1-13.

Joseph, C. and R. Taplin, 2012. Local government website sustainability reporting: A mimicry perspective. Soc. Responsibil. J., 8(3): 363-372.

Kim, P.S., 2009. Enhancing public accountability for developing countries: Major constraints and strategies. Aust. J. Publ. Admin., 68: S89-S100.

Lee, J. and G. Fisher, 2004. Infrastructure assets disclosure in Australian public sector annual reports. Account. Forum, 28(4): 349-368.

Lim, S. and J. Mckinnon, 1993. Voluntary disclosure by NSW statutory authorities: The influence of political visibility. J. Account. Public Pol., 12(3): 189-216.

Lynch, B., 2010. An examination of environmental reporting by Australian state government departments. Account. Forum, 34(1): 32-45.

Mack, J. and C. Ryan, 2006. Reflections on the theoretical underpinnings of the general-purpose financial reports of Australian government departments. Account. Audit. Accountabil. J., 19(4): 592-612.

Marcuccio, M. and I. Steccolini, 2005. Social and environmental reporting in local authorities. Public Manag. Rev., 7(2): 155-176.

Marcuccio, M. and I. Steccolini, 2009. Patterns of voluntary extended performance reporting in Italian local authorities. Int. J. Public Sector Manage., 22: 146-167.

Marston, C.L. and P.J. Shrives, 1991. The use of disclosure indices in accounting research: A review article. Brit. Account. Rev., 23(3): 195-210.

Mccracken, G., 1988. The Long Interview. SAGE Publications, Newbury Park, California.

Monfardini, P., 2010. Accountability in the new public sector: A comparative case study. Int. J. Public Sector Manage., 23: 632-646.

Mussari, R. and P. Monfardini, 2010. Practices of social reporting in public sector and non-profit organizations. Public Manag. Rev., 12(4): 487-492.

Nelson, M., W. Banks and J. Fisher, 2003. Improved accountability disclosures by Canadian universities. Can. Account. Perspect., 2: 77-107.

Nelson, M., J., Fisher, G. Tower and W. Banks, 1997. A comparison of university accountability in Australia and Canada. J. Contemp. Issues Bus. Gov., 3(2): 36-46.

Nichol, E. and D. Taylor, 2001. Accountability and performance reporting in the public accounts of Malaysian government. J. Contemp. Issues Bus. Gov., 7: 33-41.

Pallot, J., 1992. Elements of a theoretical framework for public sector accounting. Account. Audit. Accountabil. J., 5(1): 38-59.

Perez, C.C., M.P.R. Bolívar and A.M. López Hernández, 2008. e-Government process and incentives for online public financial information. Online Inform. Rev., 32: 379-400.

Pérez, C.C. and A.M. López-Hernández, 2009. Governmental financial transparency in MERCOSUR member countries. Int. Rev. Adm. Sci., 75: 169-181.

Power, M., 1996. Making things auditable. Account. Organ. Soc., 21(2-3): 289-315.

Prime Minister's Department, 2004. General circular letter no. 6 of 2004: Amendment to the general circular letter no. 1 of 1995 on preparation of annual summary report of the financial status and performance of federal statutory bodies. Percetakan Nasional Malaysia, Kuala Lumpur.

Prime Minister's Department, 2005. Development administration circular no. 2 of 2005: Guideline on establishing Key Performance Indicators (KPI) and implementing performance assessment at government agency. Percetakan Nasional Malaysia, Kuala Lumpur.

Queensland Audit Office, 1999. Corporate Governance: Beyond Compliance, a Review of Certain Government Departments. Queensland Audit Office, Brisbane.

Ranson, S., 2003. Public accountability in the age of neo-liberal governance. J. Educ. Policy, 18(5): 459-480.

Robbins, W.A. and K.R. Austin, 1986. Disclosure quality in governmental financial reports: An assessment of the appropriateness of a compound measure. J. Account. Res., 24(2): 412-421.

Romzek, B.S., 2000. Dynamics of public sector accountability in an era of reform. Int. Rev. Adm. Sci., 66(1): 21-44.

Ryan, C. and C. Ng, 2000. Public sector corporate governance disclosures: An examination of annual reporting practices in Queensland. Aust. J. Publ. Admin., 59(2): 11-23.

Ryan, C.M., K.L. Dunstan and J. Brown, 2002a. The value of public sector annual reports and annual reporting awards in organisational legitimacy. Account. Audit. Perform., 8(1): 61-76.

Ryan, C., T. Stanley and M. Nelson, 2002b. Accountability disclosures by Queensland local government councils: 1997-1999. Finan. Accountabil. Manage., 18: 261-289.

Samaratunge, R., Q. Alam and J. Teicher, 2008. Public sector reforms and accountability: The case of south and Southeast Asia. Public Manag. Rev., 10(1): 101-126.

Schneider, A. and G. Samkin, 2008. Intellectual capital reporting by the New Zealand local government sector. J. Intellect. Capital, 9(3): 456-486.

Singh, D.R. and K. Bhargava, 1978. Quality of disclosure in the public sector enterprises. Vikalpa, 3(4): 257-264.

Singhvi, S.S. and H.B. Desai, 1972. The quality of corporate financial disclosure: A reply. Account. Rev., 47(3): 585-586.

Steenkamp, N. and D. Northcott, 2007. Content analysis in accounting research: The practical challenges. Aust. Account. Rev., 17(43): 12-25.

Taylor, D. and M. Rosair, 2000. The effects of participating parties, the public and size on government departments' accountability disclosures in annual reports. Account. Accountabil. Perform., 6: 77-97.

Taylor, D.W. and K. Pincus, 1999. Core Concepts of Accounting Information: A New Introduction to Accounting. McGraw Hill, Sydney.

Tooley, S. and J. Guthrie, 2007. Reporting performance by New Zealand secondary schools: An analysis of disclosures. Finan. Accountabil. Manage., 23(4): 351-374.

Tooley, S., J. Hooks and N. Basnan, 2010. Performance reporting by Malaysian local authorities: Identifying stakeholder needs. Finan. Accountabil. Manage., 26(2): 103-133.

Treasury, 2007. Treasury Circular No. 4 of 2007: Guideline for Preparation and Presentation of Annual Reports and Financial Statements of Statutory Bodies. Ministry of Finance Malaysia, Kuala Lumpur.

Treasury, 2008. Treasury Circular No. 10 of 2008: Establishment, Role and Responsibilities of Financial Management and Accounting Committee in Federal Government Agencies. Ministry of Finance Malaysia, Kuala Lumpur.

Wall, A. and G. Martin, 2003. The disclosure of key performance indicators in the public sector: How Irish organizations are performing. Public Manag. Rev., 5(4): 491-509.

Wallace, R.S.O., K. Naser and A. Mora, 1994. The relationship between the comprehensiveness of corporate annual reports and firm characteristics in Spain. Account. Bus. Res., 25(97): 41-53.

Wei, T.L., H. Davey and D. Coy, 2008. A disclosure index to measure the quality of annual reporting by museums in New Zealand and the UK. J. Appl. Account. Res., 9(1): 29-51.

End notes:

1: This Circular is on “Preparation of annual summary report of the financial status and performance of federal statutory bodies”. This circular is useful to incorporate relevant financial and performance information.

2: The Circular is on “Guideline on establishing Key Performance Indicators (KPI) and implementing performance assessment at Government agency”.

3: The Code is originally meant for public listed companies.

4: The Circular is on “Establishment, role and responsibilities of financial management and accounting committee in federal government agencies”.