Assessing Accountability of Organisations using the Internet to Report: South Korean Local Government

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Abstract
In the past decade, there has been a transformation in the way organisations meet their accountability obligations. Formerly, the hard-copy annual report was the norm; nowadays, with the advent of high-speed broadband internet, in addition to traditional methods, organisations are using websites for reporting to the public. This paper reports a study of internet reporting by local governments in South Korea. A public accountability perspective is used to develop the Local E-government Accountability (LEGA) disclosure index which is applied to the websites of the fifteen largest cities in South Korea. Overall, the websites are rated as “quite good”. The main shortcomings are the absence of a comprehensive annual report showing cash flow statements and an audit report, and also, a focus on financial measures and information to the exclusion of non-financial measures which, arguably, would better capture the essence of what local government is primarily about; the social, environmental, economic and political condition and development of cities. The study provides report preparers, website designers and stakeholders with ideas on how accountability using the internet may be improved in future.

KEYWORDS: Public accountability; Internet; Disclosure index; Local government

Introduction
Traditionally, the hard copy paper annual report was the principal means by which organisations discharged their accountability obligations to owners, shareholders and the public at large. Nowadays, increasing numbers of organisations in both public and private sectors publish annual report type information on internet websites, usually as a supplement to the hard copy report. This paper assesses the quality of internet reporting by local governments in South Korea using a specially constructed disclosure index which adopts a public accountability perspective.

South Korean local government was identified as suitable for research because South Korea has a particularly high uptake of internet usage by households, being in the top five of recent OECD studies (OECD, 2011a), and there is no evidence of studies of internet reporting by South Korean local government in the extant literature. The importance of this research also lies in the fact that E-government initiatives are still early in the development stage and have plenty of room for improvement. The findings from this study could therefore potentially lead to higher standards of internet reporting practices by South Korean local government, and also, by implication, other local government worldwide.

The paper has three objectives. First, a comprehensive index that measures the quality of online disclosures for accountability purposes is developed. Second, the current internet reporting practices of the fifteen largest South Korean local governments are evaluated using the index. Finally, the paper compares the results between metropolitan and non-metropolitan cities to assess whether city size as measured by population has an influence on the quality of online reporting.

Literature review
The literature on local government reporting focuses on the concept of accountability. This section reviews prior studies on public sector accountability, external performance reporting of public organisations, the role of annual reporting in discharging accountability, and finally, the use of the internet by local government to meet accountability obligations.
**The concept of accountability**

Broadly speaking, accountability is about being held accountable to another party. Cutt and Murray (2000) argue that accountability involves 'obligation' to render an account for one's actions to another who conferred responsibilities to that party. On the other hand, Roberts and Scapens (1985) state that it is about 'giving and demanding of reasons' for conduct, and occurs in various social constructs, such as within families, and within and between organisations. Accountability is a multi-faceted concept (Gray and Jenkins, 1986; Horton, 2006; Sinclair, 1995; Stewart, 1984) that is evolving (Degeling, Anderson and Guthrie, 1996; Guthrie, 1993; Ogden, 1995; Parker and Gould, 1999; Taylor and Rosair, 2000). The literature has not reached a finite consensus on the meaning of accountability.

Agency relationship is a prominent concept in the literature on accountability. Barton (2006) argues that accountability occurs when an agent accepts resources and responsibilities of a principal. In this sense, Parker and Gould (1999) emphasise the stewardship aspect of accountability, where agents provide information to the principal in order to meet the informational needs of the principal. Foster (2001) suggests that, in an agency relationship, the use of contracts can assist in achieving accountability, as it clarifies responsibilities and the obligation to meet informational needs of the principal for monitoring purposes. Indeed, Funnell (2001; 2003) states that accountability relationships in the public sector have become more contractual in nature, due to the increasing privatisation of core public services that the government traditionally provided. However, public sector accountability is complicated by the greater number of agency relationships involved (Funnell, 2001; 2003) and by power differentials and informational asymmetry (Broadbent and Guthrie, 1992). Also, Kloot and Martin (2001) highlight the importance of social contracts, such as that between the government and the citizens, which are not manageable by legal contracts. As such, accountability relationships observed in the private sector and those in the public sector are said to be fundamentally different in many aspects.

Broadbent and Laughlin (2003) argue that there are two aspects of accountability: public/political accountability, which considers the public as principal and the government as agent, and managerial accountability, which is concerned with the day-to-day operations of an organisation. Under managerial accountability, detailed information is provided to the principal not to meet public accountability obligations, but rather to control the agents and legitimise their past decisions. The former is often associated with the ideas of stewardship and effectiveness measures (how well objectives were met), whereas the latter is linked to the use of efficiency measures and focuses on value production.

Traditionally, public sector accountability is more concerned with assessing the achievement of objectives rather than profits made by the entity (Patton, 1992). Thus, stewardship was the primary focus of governmental accountability in the past. However, during the last decade or so, a significant convergence between private and public sector accountabilities has been observed (in terms of form rather than substance) while the two forms of accountability remain fundamentally different. Taylor and Rosair (2000) believe that the public accountability concept has broadened from stewardship to managerial accountability. They found evidence which indicates that external reporting was directed to meeting the accountability demands of the participating parties (for instance, state government) rather than providing accountability to broader stakeholders who are not government employees/officials, and that greater emphasis was placed on financial information and performance outcomes. Parker and Gould (1999) point out that local governments owe accountability to the state government as a result of the state government’s control over municipal entities. Parker and Gould (1999) also argue that the movement towards a commercial orientation in the public sector is reshaping the concept of accountability. Public entities’ focus on value
creation reduces the gap between public and private sector accountability. This is evident in increasing emphasis on planning, budgeting and service delivery in the public sector (Goddard, 2005). In addition, Cameron (2004) echoes Parker and Gould's view by arguing that reporting of well-documented performance information, which used to be the focus of traditional accounting practice for private, profit-oriented entities, is now pivotal to public sector accountability.

Consistent with Parker and Gould (1999), Collier (2005) suggests that annual reports and performance reports in traditional accounting practices are functions of managerial accountability rather than public/political accountability due to its emphasis on the financial aspect of the relationship, and hence are not appropriate for public sector accountability. Also, Cameron (2004) shares such insight by suggesting that Key Performance Indicators (KPIs) are driven by budgetary process, and are linked to resource allocation rather than attainment of accountability objectives. Thus, the use of KPIs in local government reporting is considered as a function of managerial rather than political accountability, and emphasises efficiency rather than effectiveness.

Patton (1992) compares the general public to private investors, who have informational access to capital markets. The public has no freedom to choose alternative entities in the public sector. Hence, stewardship of public monies and disclosure of information against stated objectives are critical in order for taxpayers to monitor and understand governmental activities and performance. Therefore, Patton (1992) argues, both performance reporting and traditional compliance reporting are pivotal to accountability relationships with external stakeholders. However, Broadbent and Laughlin (2003), Funnell (2001; 2003) and Parker and Gould (1999) explain that, in practice, the hierarchical nature of accountability relationships in public sector entities limits their accountability to the broader community. That is, municipal governments are likely to report their activities and performances just to satisfy the compliance requirements placed upon them by higher authorities.

In searching for factors that extend accountability of public organisations to the wider community, Kluvers and Tippett (2010) studied the perception of accountability held by councillors and managers from 78 Victorian municipalities, and found four factors closely linked to accountability; information (access to understandable information), values (honest values and concern for the greater good), enforcement (legal compliance and the need for contractual relationships), and relationships (difficulty in managing multiple accountability relationships and interaction with various stakeholders). They conclude that personal values held by public councillors and managers are an important aspect of accountability because their values affect the degree to which accountability disclosures extend beyond the legal requirements.

**Performance measurement in the context of external reporting**

A shift toward managerial accountability in the public sector highlights the increasing use of KPIs and other non-financial process, output and outcome measures by municipalities. For public organisations, including municipalities, which have objectives that are often non-financial and ambiguous, as well as multiple stakeholders and complex accountability relationships, non-financial performance measures are considered to be particularly important (Conroy, 2002; Moriarty and Kennedy, 2002; Kloot and Martin 2001). Also, Mayne (1997) and Stewart (1984) and emphasise the importance of external reporting of performance measures by public sector entities for external programme accountability purposes. Internal and external evaluations are complementary and both play important roles in effective performance measurement systems (Guthrie and English, 1997).

Regulatory requirements have been the driving force behind major performance measure-
ment initiatives in the US (Nyhan and Martin, 1999), the UK (Bovaird, 2002), and Australia (Worthington and Dollery, 2002; Kloot, 1999). However, Pollanen (2005) and Poister and Streib (1999) confirm that in Canada, where there are limited mandatory requirements, external reporting of performance measurements was largely voluntary. Pollanen (2005) suggests that the delayed introduction of mandatory performance reporting is possibly due to relatively late regulatory amalgamations in Canadian municipal governments compared to other Anglo-Saxon countries.

Despite the widespread adoption of performance measurement in public organisations, according to Kloot (1999) and Poister and Streib (1999) the performance measures disclosed in accountability reports tend to be irrelevant to and/or unavailable for most organisational activities and programmes, not meaningfully used in decision-making, and not reported to external parties. Other studies suggest reasons for this.

Greiner (1996) identifies four types of obstacles to the acceptance and application of performance measures in the public sector: (i) Institutional - mistrust of measurement and resistance to reporting bad news, (ii) Pragmatic - lack of credibility and usefulness, (iii) Technical - lack of standards and timeliness, and (iv) Financial – considerable time and resources required. Mayne and Zapico-Goni (1997) classify the possible impediments as uncertainty, diversity, interdependence, and instability. The difficulty of measuring service quality is also confirmed as a major impediment by Pollanen (2005) and Poister and Streib (1999). In addition, Moriarty and Kennedy (2002) and Otley (2001) argue that identification of stakeholders and the multiple/conflicting political objectives of different stakeholders can also pose serious problems.

The role of the annual report in discharging accountability

Coy and Pratt (1998) and Sinclair (1995) argue that annual reports need to be seen as only one means of discharging accountability. They enable local governments to discharge their accountability obligations to a diverse group of stakeholders (Coy, Fischer and Gordon, 2001; Banks and Nelson, 1994). It is considered to be the only comprehensive statement of stewardship (Boyne and Law, 1991). Ryan, Stanley and Nelson (2002) also recognise the role that annual reporting plays in discharging accountability of local governments.

Nevertheless, there is little public interest in the financial aspect of the annual report of public sector agencies, because the report has little relevant information that users seek, or is presented in formats that are too complex for the general public to understand, or is not directly available and accessible to potential users (Jones, 1992). In a survey of actual and potential users of municipal government reports, Priest, Ng and Dolley (1999) found that 15% of users are not interested in the report and almost half of them do not read it at all, primarily because it is publicly inaccessible. Despite the lack of public interest Mayston (1992) recognises that while information may not be used directly by taxpayers, the information is used by intermediaries. Public interest will improve when the quality of disclosures and annual reports improve (Likierman, 1992); Coy and Pratt (1998) concur, stating that as the general level of education across society and the quality of the reports improve, so more stakeholders may take an interest in the accountability processes. The very essence of accountability must be assessed by others outside the organisation (Normanton, 1971).

Various aspects of public sector annual reporting are discussed in the literature. Some studies found that, while the financial report is a necessary part of local government reporting, the traditional form of financial statement disclosures are insufficient to satisfy users’ informational needs (Collins, Keenan and Lapsley, 1991; Daniels and Daniels, 1991; Lapsley, 1992; Priest et al., 1991). Timeliness and comprehensiveness of an annual report
determine the quality of the report (Dixon, Coy and Tower, 1991). A late annual report is of limited use (Boyne and Law, 1991; Shand, 1981). Carnegie (1990) found that Australian local governments commonly have a reporting lag of about five months, and that there are no sanctions for late reporting. While Smith and Coy (1999) and Dixon et al. (1991) found a positive correlation between the timeliness of the report and the quality of reporting in the study of NZ universities and NZ local councils respectively, Coy, Tower and Dixon (1994) found a conflicting result in their study of NZ universities. Consistent with the latter, Ryan et al. (2002) also conclude that there is no correlation between timeliness and the quality of reporting, and also found no significant correlation between the sophistication of the accounting system and the quality of disclosures.

Subsequent to the arguments that larger organisations will be able to commit more resources to produce better quality reports, Ryan et al., (2002) found that the size of Australian Councils had a positive correlation with the quality of disclosures. This contrasts with Dixon et al. (1991) who found no correlation between the size of the NZ universities and the quality of disclosures.

Both financial and non-financial measures are essential components of performance assessment and the discharge of accountability via annual reports (Barton, 2006; Boyne and Law, 1991; Coy et al., 2001). The quality of performance information was assessed in some studies, and was found to be quite poor in general, relative to other parts of annual reports (Banks and Nelson, 1994; Boyne and Law, 1991; Coy et al., 1994; Nelson, Fisher, Tower and Banks, 1997).

It is essential to note that a comprehensive concept of accountability requires not only the availability of information, but also that the information is reliable, qualitatively satisfying, understandable, accessible, and in a wider view, diffused, distributed and disseminated (Coy et al., 2001; Herzlinger, 1996; Patton, 1992). Similarly, Stecollini (2004) argues that comprehensive, understandable, and reliable information should not only be accessible but also diffused, providing the basis for the evaluation of the public organisation's actions and results and feeding the budgeting process. From the study of Italian local governments, he concluded that Italian local government reporting system is still in an early stage of development. The contents of [Italian] annual reports were poor and provided limited information about the organisation's activities and performance to external users, and most governments do not use alternative forms of communicating to external users.

The shift in public accountability patterns and regimes has led to substantial changes in local government accounting and measurement systems; (i) adoption of accrual accounting, (ii) emphasis on non-financial performance measures and (iii) use of alternative communication tools other than the annual report (Stecollini, 2004; Capurchione, 2003; Guarini, 1999). Stecollini (2004) found that, while the use of alternative means to communicate results is not common in Italian local governments, some large local governments are required to publish their budget in newspapers. Alternative means of communicating results to constituents by Australian local governments, such as publishing articles in local newspapers, radio broadcasting, and sending reports to taxpayers, are discussed by Kloot and Martin (2001).

**Discharging accountability via the internet**

An increasing body of literature concentrates on E-governance initiatives and their impact on enhancing transparency and anti-corruption (see, for example, Anderson, 2009; Bertot, Jaeger and Grimes, 2010; Kim, Kim and Lee, 2009; Shim and Eom, 2008; Pina, Torres and Acerete, 2007b; Pina, Torres and Royo, 2007a). Accountability has extended its meaning to embrace financial accountability, as well as openness and transparency initiatives, which
aim at making both the control of government by the citizenry and public discussion between citizens and governments easier (Mulgan, 2000; Pina et al., 2007a). In this sense, the literature assumes that transparency, anti-corruption, and accountability are related. The utilisation of web-based technologies to deliver government services and interact with citizens has an aim of reducing the distance between government and citizen, which was widened as a result of the ‘managerialism’ of the 1990s (Noordhoek and Saner, 2005). Many E-government websites encompass interactive features and services in order to restore public trust by providing necessary information and regulations and responding to individual queries in a more effective and timely manner (Florini, 2000; Moon, 2002). Vishwanath and Kaufmann (1999) argue that such openness and information sharing will enable citizens to make more informed political decisions, which can, in turn, improve the government’s accountability. Bertot et al. (2010) argue that the use of E-government and social media can create a significant positive change in the social attitude towards transparency. Citizens expect information and communication technologies (ICTs) to increase transparency and empower citizens to monitor government performance more closely (Demchak, Friis and La Porte, 2000; Pina et al., 2007a, 2007b). Notwithstanding, many of the European Union local government websites were non-interactive, and not run as an effective medium to facilitate citizen consultation, policy discussion, or other democratic inputs into the political process (Pina et al., 2007a). Pina et al. (2007b) demonstrate that only a few websites show clear signs of openness and most of the websites analysed are used primarily for the purpose of disseminating information and translating private sector e-commerce experiences into public sector entities. Yet, Pina et al. (2007a, 2007b) recognise that the internet offers a significant potential to bring citizens closer to their governments. The use of the internet as a means of disseminating information helps to improve accountability by enhancing transparency and reducing dissemination costs (Pina et al., 2007a).

Overall, the current literature on E-governance suggests that accountability between local governments and citizens can be improved not only through the better use of annual reports, but also by enhancing citizenry involvement in public services and engaging them in real time interactive dialogue with local bodies and democratic processes. More empirical evidence is required to illustrate the role that e-governance plays in improving accountability, and perhaps even reducing corruption.

Research method
The annual report is widely regarded as the single comprehensive reporting mechanism designed for the purpose of discharging accountability. Many of the empirical studies assessing the quality of accountability achieved by public sector organisations develop and apply a disclosure index, and this approach is used in this study (Banks and Nelson, 1994; Boyne and Law, 1991; Coy et al., 2001; Marston and Shrives, 1991; Ryan et al., 2002; Sinclair, 1995). The indices used can be broadly classified into two types; annual report disclosure indices, and web-based disclosure indices.

The Local E-government Accountability Index (LEGA) developed for this study draws heavily on the Local Government Accountability Index (LGA) (Ryan et al., 2002), the Transparency, Interactivity, Usability and Website Maturity Model (TIUW) (Pina et al., 2007a), and the Internet Financial Reporting Index (IFR) (Pina et al., 2010).

An increasing number of municipalities utilise ICTs as a means of enhancing citizenry participation in the democratic process and improving efficiency of key administrative services provided by local governments (Fountain, 2001; Mulgan, 2000; Silcock, 2001). Many of the prior studies in the field of E-governance focus on the theme of anti-corruption in local government administrations, rather than accountability (APDIP, 2006; Heeks, 1998; Wescott,
Achieving accountability requires commitments far beyond mere anti-corrupt government. They are, however, likely to be positively correlated. Pina et al. (2007a) assessed the level of E-government developments based on the following four dimensions: Transparency, Interactivity, Usability, and Website Maturity. The combination of Transparency and Interactivity reflects an organisation's degree of openness (Demchak et al., 2000), which is a measure of comprehensiveness and timeliness of information and service provision to the public, and therefore, a reflection of governmental accountability (Pina et al., 2007a).

Usability refers to the ease with which users can navigate the website to access various information (Grant and Grant, 2002). Website maturity is an indication of website sophistication, such as no broken links, the use of audio-visuals, credit card payments, and so forth. While these two factors are not a direct measure of accountability, they are an essential part of E-governmental reporting because web portals deliver value to users as a function of how accessible and usable the specific contents are (Pina et al., 2007a).

Pina, Torres and Royo (2010) conducted a similar investigation focusing on the quality of financial information disclosed on the internet. The quality of IFR was assessed in terms of the quantity of information disclosure, qualitative characteristics, and usability of the website to access financial information. The IFR index is detailed, taking into account not only the individual disclosures, but also the four qualitative characteristics (transparency, interactivity, usability and website maturity) and usability of financial reports produced online, based on International Public Sector Accounting Standards (IPSAS), International Federation of Accountants standards (for contents analysis), International Accounting Standards Board, Financial Accounting Standards Board and Governmental Accounting Standards Board (for qualitative and usability standards analysis). This study is distinguished from other public accountability studies because it covers not only the number of disclosures but also their quality.

We adopt the viewpoint from the literature that the annual report should be produced as a single comprehensive medium of discharging an organisation's accountability to the key stakeholders. The criteria of the TIUW model are critical measures of the quality of websites as a means of improving transparency and governmental interactions with citizens, and thereby accountability. The qualitative characteristics of financial statements are still applicable to accounting information published online because the stakeholders need the information as a basis of social, political, and economic decision making.

The LEGA index comprises three categories; A – Quality of information disclosures (17 items), B – Quality of the website as an accountability medium (4 items), and C – Qualitative characteristics of financial information (6 items). For pragmatic reasons individual items in categories A and C are unweighted and contribute equally to the overall category scores. For category B, the approach of Pina et al. (2007a) is adopted applying weights of 40% each to Transparency and Interactivity and 10% each to Usability and Website maturity.

As shown in the Appendix, descriptive criteria are developed for scoring each of the 27 items comprising the index. Scores ranging from 0 to 5 are awarded for each item matching the level of disclosure for the information items in category A, and perceived quality for the items in categories B and C. The total score for each category is then expressed as a percentage of the total possible score for that category. In calculating the overall LEGA index score the three categories are assumed to make equal contributions towards achieving E-government accountability, and are weighted equally.

In July 2011 the LEGA index was applied to the websites of the fifteen largest cities of South Korea which account for 86% of the population (2005 census). A major advantage of the LEGA index is that it is comprehensive; it takes into account both the online contents of
the annual report and the quality of websites. It captures most of the key aspects of local E-government accountability that are prevalent in the extant literature. A key weakness of this method is that due to the inherent nature of the polychotomous scales used, elements of subjectivity are inevitable. The scoring criteria for each of the items in the index are based primarily on the judgement of the researcher and tend to be arbitrary. Also, it is expected that some websites have their own unique features, due to, for instance, differences in administration styles, stakeholders engaged, services provided, and so forth. Thus, the index may not be able to capture all of the important aspects of the local government websites, if such features are not recognised in the index. Also, it is worth questioning the extent to which Korean Accounting Standards (KAS) differ from Anglo-Saxon standards such as International Financial Reporting Standards (IFRS), or IPSAS. Without substantiating in what aspects and to what extent KAS are distinguished from the Western standards, the standards of reporting practices used in this model may not be so relevant to Korean local governments, and the results from this study may not be comparable with other studies such as Pina et al. (2007a) or Ryan et al. (2002). Further research is required to bridge this gap.

Findings and Discussion
The mean scores for each item in the LEGA Index are shown in Tables 1, 2 and 3 (below). The final column in each table shows the mean score expressed as a percentage. The maximum score for each item is five. The overall LEGA index score shown in Table 4 is calculated as an unweighted average of the three category scores.

Category A - Quality of Disclosures
The mean scores of the fifteen municipal governments analysed for Category A (Quality of disclosures) are summarised in Table 1. The highest mean score is for the item Financial Review. The financial review is disclosed in a separate report called “지방재정공시” (pronounced Ji-bahng-je-Jung-Gong-Shee; translated as Local (Government) Finance Disclosure (“LFD”)), which is required to be produced annually under the Local Finance Law (Dangjin City, 2011). Clause 60 of the Law requires local authorities to make disclosures in relation to actual and budgeted income and expenditure, loans and temporary finance, debt management, financial operation, current balance of and changes in public assets, and overall financial information. In addition, under Clause 68, financial analysis and the diagnosis report from the Ministry of Public Administration and Security, Audit results, and other items of citizen interest must also be disclosed. The LFD report consists of two parts; the first part, known as Common Disclosures, contains the information mentioned above; the second part, known as Special Disclosures, contains the financial information in relation to the regional businesses particular to the municipal government for which the LFD report is prepared.

<table>
<thead>
<tr>
<th>Items</th>
<th>Mean</th>
<th>Normalised to 100%</th>
</tr>
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<tbody>
<tr>
<td>A Quality of Disclosures</td>
<td>1.53</td>
<td>30.7%</td>
</tr>
</tbody>
</table>

Table 1 - Summary of Quality of Disclosures scores

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Score</th>
<th>Percentage</th>
</tr>
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<tbody>
<tr>
<td>2</td>
<td>Statement of objectives</td>
<td>2.93</td>
<td>58.7%</td>
</tr>
<tr>
<td>3</td>
<td>Mayor’s report</td>
<td>1.13</td>
<td>22.7%</td>
</tr>
<tr>
<td>4</td>
<td>Corporate governance</td>
<td>2.00</td>
<td>40.0%</td>
</tr>
<tr>
<td>5</td>
<td>Environment report</td>
<td>2.67</td>
<td>53.3%</td>
</tr>
<tr>
<td>6</td>
<td>People</td>
<td>0.13</td>
<td>2.7%</td>
</tr>
<tr>
<td>7</td>
<td>Summary facts and figures / Key statistics</td>
<td>1.80</td>
<td>36.0%</td>
</tr>
<tr>
<td>8</td>
<td>Performance measurement</td>
<td>2.53</td>
<td>50.7%</td>
</tr>
<tr>
<td>9</td>
<td>Financial review</td>
<td>4.13</td>
<td>82.7%</td>
</tr>
<tr>
<td>10</td>
<td>Operating statement / Statement of financial performance</td>
<td>4.00</td>
<td>80.0%</td>
</tr>
<tr>
<td>11</td>
<td>Statement of financial position</td>
<td>4.00</td>
<td>80.0%</td>
</tr>
<tr>
<td>12</td>
<td>Statement of cash flows</td>
<td>0.00</td>
<td>0.0%</td>
</tr>
<tr>
<td>13</td>
<td>Notes to financial statements</td>
<td>2.40</td>
<td>48.0%</td>
</tr>
<tr>
<td>14</td>
<td>Remuneration of Councillors / Executive Officers</td>
<td>0.00</td>
<td>0.0%</td>
</tr>
<tr>
<td>15</td>
<td>Auditor’s report</td>
<td>0.00</td>
<td>0.0%</td>
</tr>
<tr>
<td>16</td>
<td>Budgetary information</td>
<td>1.93</td>
<td>38.7%</td>
</tr>
<tr>
<td>17</td>
<td>Financial ratios (for benchmarking)</td>
<td>2.60</td>
<td>52.0%</td>
</tr>
<tr>
<td></td>
<td><strong>Total score (%)</strong></td>
<td></td>
<td><strong>39.8%</strong></td>
</tr>
</tbody>
</table>

The average score of 4.13 for the ‘Financial Review’ indicates that most municipalities published comprehensive information on their websites. In fact, twelve of the municipalities scored 5 on this item, the exceptions being Busan Metropolitan City, Gwangju Metropolitan City, and Goyang City governments which scored 1 or 0. Similarly, the balance sheets, income statements, and the notes to the financial statements were available on the websites of all cities, except for these three.

Although all of the fifteen municipalities produce an annual Financial Report, which contains the statement of financial performance, the statement of financial position, the statement of movements in equity, analysis of the key results, and the notes to the financial statements, none disclosed cash flow statements or the auditor’s report in their websites. The reason for this appears to be that this information is not required by the Municipal Government Accounting Standard Regulations as stated in the disclaimer statement attached to the financial report. While financial reports and financial analysis were available on most of the websites, none had a comprehensive Annual Report available. Instead of a single comprehensive report, all South Korean local authorities publish a number of different reports that are produced for an external accountability purpose on a regular basis,
including 시정백서 (Shi-Jung-Baek-Suh; translated as Local Government White Paper), Financial Report, and LFD report. The Local Government White Papers contain detailed qualitative descriptions of the local governments' key activities, including social welfare, local economy, environments, education and culture, infrastructure, and citizen security. In contrast to these reports which were mostly available in a downloadable form, information regarding budget, future plans, objectives and strategies is often publicised on a website with more interactive and visual features. This implicitly suggests a view of the South Korean Government that these pieces of information are more relevant to general citizens than performance reports. Nevertheless, they often lack detail and provide insufficient information required to discharge accountability of a local government to all stakeholders, and this is reflected in low scores for the items 2, 3 and 16.

Other notable results are People and Remuneration of Councillors / Executive Officers criteria, which scored 2.7% and nil % respectively. Only Busan and Gwangju Metropolitan Cities websites contained information on the number of staff employed by their local governments, classified into major departments. None of the municipal government websites made disclosures with regard to occupational health and safety programmes and records, and quantitative and qualitative descriptions about general staff composition, for instance, in terms of gender, ethnicity, number of people with or without disability, and their positions. In relation to remuneration of senior personnel no relevant information could be found on any of the fifteen websites.

As indicated by the score of 50.7% for item 8, some performance measures were available on some websites, with some indications of benchmarking normally against the average scores of all municipalities. However, the majority of the performance measures found were financial, and few non-financial measures were found. Also, the performance measures that were found are not presented in a separate report but appear at random points on the website without any reference to targets or objectives. Detailed interpretations of the performance measurements were hardly available as well, also indicated by the moderate score for item 17. Only Daegu Metropolitan City published a separate detailed KPI report. Concerning environmental reporting scores, larger municipalities, including all the metropolitan city authorities, had at least some kind of reporting on the condition of the local environment or the effects of the local governmental activities on the environment. With the exception of Suwon City, the largest non-metropolitan city, and Cheongju City, none of the non-metropolitan municipalities made any environmental reporting disclosures.

In relation to corporate governance (item 4), organisational charts and reference to decision-making structures were available in all of the websites. However, more comprehensive corporate governance would require an annual review of the corporate structure and internal control systems, including audit committee and risk management policies. None of such information was disclosed on any of the fifteen websites studied.

**Category B - Quality of the Website as an Accountability Medium**

The results of the assessment of the quality of the websites as an accountability medium are summarised in Table 2. All four items in this category score highly. As discussed earlier, the combination of transparency and interactivity is an indication of an organisation's degree of openness to external stakeholders (Demchak et al., 2000). Government websites that are transparent would ensure credibility of the information and promote public trust and legitimacy in the information provided via the web. Local governments could also use interactive features including email links to senior officials, the use of forums or suggestion boxes, regular news feeds and so forth, in order to enhance their accountability to their stakeholders. High scores in transparency and interactivity by the local governments
studied demonstrate their efforts in disclosure of information about public services to the broader community in a comprehensive and timely manner.

### Table 2 Summary of the Quality of Website scores

<table>
<thead>
<tr>
<th>Items</th>
<th>MEAN</th>
<th>Normalised to 100%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B</strong> The quality of website as an accountability medium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Transparency</td>
<td>5.00</td>
<td>100.0%</td>
</tr>
<tr>
<td>2 Interactivity</td>
<td>3.87</td>
<td>77.3%</td>
</tr>
<tr>
<td>3 Usability</td>
<td>4.13</td>
<td>82.7%</td>
</tr>
<tr>
<td>4 Website maturity</td>
<td>4.27</td>
<td>85.3%</td>
</tr>
<tr>
<td><strong>Total score (%)</strong></td>
<td></td>
<td>87.7%</td>
</tr>
</tbody>
</table>

Usability and website maturity are complementary features required for the website to be an effective medium of accountability. These scores are also high, as a number of features were incorporated in all of the websites analysed to ensure that users can easily access the key information that they expect to find from the websites. These include a search engine, A-Z index, sitemap, Frequently Asked Questions section, glossary, direct links to mostly used features, and the list goes on. Also, some of the key administrative services provided by the local authorities, for instance, application of the national identification number, birth certificates, marriage certificates, online secured payment of rates, and so on, were available on all fifteen websites. Provision of such administrative services online helps the government deliver more value to citizens as it is more efficient and convenient, and promotes better opportunities for the website to facilitate interaction between government and citizens more frequently and effectively.

### Category C - Qualitative Characteristics of Financial Information

Table 3 shows a summary of the mean scores for the Qualitative Characteristics category. Of the qualitative characteristics of financial information provided via the websites, completeness with 85.3% scored the highest. This item is an indication of the degree to which a financial report contains all the financial statements and accompanying information required by the relevant reporting standards. The information required to be disclosed in an annual financial report under the Municipal Government Accounting Standard Regulations includes i) Accounts Review (comprehensive overview and explanatory notes of the results of the financial statements), ii) financial statements (balance sheet, income statement and movements in equity statement are compulsory, cash flow statement is optional), iii) notes to the financial statements, and iv) compulsory supplementary information. The compulsory supplementary information includes budget summary, financial performance statement by nature (as opposed to income statement by function), managerially responsible assets (that is, public assets owned by the local authority), notes on differences between budget accounts and financial accounts, and any other information that is not reflected on financial statements but is considered significant. All the financial reports on the websites contained all of these items.
Table 3 Summary of Qualitative Characteristics scores

<table>
<thead>
<tr>
<th>Items</th>
<th>MEAN</th>
<th>Normalised to 100%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Qualitative characteristics of financial information</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1  Understandability</td>
<td>3.40</td>
<td>68.0%</td>
</tr>
<tr>
<td>2  Timeliness</td>
<td>1.80</td>
<td>36.0%</td>
</tr>
<tr>
<td>3  Reliability</td>
<td>1.00</td>
<td>20.0%</td>
</tr>
<tr>
<td>4  Relevance</td>
<td>3.60</td>
<td>72.0%</td>
</tr>
<tr>
<td>5  Completeness</td>
<td>4.27</td>
<td>85.3%</td>
</tr>
<tr>
<td>6  Comparability</td>
<td>3.47</td>
<td>69.3%</td>
</tr>
<tr>
<td><strong>Total score (%)</strong></td>
<td></td>
<td><strong>58.4%</strong></td>
</tr>
</tbody>
</table>

In contrast, reliability scored the lowest. The criterion for this item is an audit report with an audit opinion attached to the financial report. As noted earlier, an audit report is not mandatory. Interestingly, some audit results could be found in respect of some of the businesses or departmental functions run by the municipal government on some of the websites. However, these do not cover the reliability of the financial statements of the local government overall.

The Timeliness score was also poor. This is because the Municipal Government Accounting Standard Regulations do not impose a specific deadline for annual financial reporting by local governments. Most financial reports studied had a time lag of approximately 17 months, which is far more than the generally recommended time frame of 3 to 4 months. None of the 15 governments issued interim reports. The longer the time lapse between balance date and the issue of financial statements, the less is the relevance of the information to users (Boyne and Law, 1991; Dixon et al., 1991).

Table 4 shows a summary of the overall LEGA index scores for the fifteen cities, listed by population size. As well as being the largest city in South Korea, Seoul Metropolitan City is clearly leading the rest as it scores highest for the overall score (75%), and for the quality of disclosures and the qualitative characteristics of financial information. All other cities score over 60% apart from Busan (52%), Gwangju Metropolitan (39%) and Goyang (36%). The consistency in the scores is mainly attributable to standardisation of the local government websites. All the websites were similar in many respects, including the interactive features and the disclosure information. The main shortcoming of the three lower scoring cities was the failure to upload financial reports. As a result, category A and C scores were significantly lowered.
### Table 4 Summary of the Results by Cities

<table>
<thead>
<tr>
<th>City</th>
<th>Population (millions)</th>
<th>Overall score</th>
<th>Category A&lt;sup&gt;2&lt;/sup&gt;</th>
<th>Category B&lt;sup&gt;3&lt;/sup&gt;</th>
<th>Category C&lt;sup&gt;4&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seoul Metropolitan</td>
<td>9.82</td>
<td>75.2%</td>
<td>54.1%</td>
<td>98.0%</td>
<td>73.3%</td>
</tr>
<tr>
<td>Busan Metropolitan</td>
<td>3.52</td>
<td>52.4%</td>
<td>27.1%</td>
<td>100.0%</td>
<td>30.0%</td>
</tr>
<tr>
<td>Daegu Metropolitan</td>
<td>2.53</td>
<td>68.7%</td>
<td>49.4%</td>
<td>90.0%</td>
<td>66.7%</td>
</tr>
<tr>
<td>Incheon Metropolitan</td>
<td>2.46</td>
<td>64.9%</td>
<td>40.0%</td>
<td>88.0%</td>
<td>66.7%</td>
</tr>
<tr>
<td>Gwangju Metropolitan</td>
<td>1.44</td>
<td>38.8%</td>
<td>16.5%</td>
<td>80.0%</td>
<td>20.0%</td>
</tr>
<tr>
<td>Daejeon Metropolitan</td>
<td>1.42</td>
<td>63.1%</td>
<td>45.9%</td>
<td>80.0%</td>
<td>63.3%</td>
</tr>
<tr>
<td>Ulsan Metropolitan</td>
<td>1.05</td>
<td>68.4%</td>
<td>47.1%</td>
<td>88.0%</td>
<td>70.0%</td>
</tr>
<tr>
<td>Suwon</td>
<td>1.04</td>
<td>69.5%</td>
<td>50.6%</td>
<td>88.0%</td>
<td>70.0%</td>
</tr>
<tr>
<td>Seongnam</td>
<td>0.94</td>
<td>61.5%</td>
<td>41.2%</td>
<td>80.0%</td>
<td>63.3%</td>
</tr>
<tr>
<td>Boocheon</td>
<td>0.84</td>
<td>66.5%</td>
<td>44.7%</td>
<td>88.0%</td>
<td>66.7%</td>
</tr>
<tr>
<td>Ansan</td>
<td>0.69</td>
<td>65.7%</td>
<td>42.4%</td>
<td>88.0%</td>
<td>66.7%</td>
</tr>
<tr>
<td>Goyang</td>
<td>0.68</td>
<td>36.1%</td>
<td>8.2%</td>
<td>80.0%</td>
<td>20.0%</td>
</tr>
<tr>
<td>Yongin</td>
<td>0.64</td>
<td>65.3%</td>
<td>41.2%</td>
<td>88.0%</td>
<td>66.7%</td>
</tr>
<tr>
<td>Cheongju</td>
<td>0.38</td>
<td>67.2%</td>
<td>47.1%</td>
<td>88.0%</td>
<td>66.7%</td>
</tr>
<tr>
<td>Jeonju</td>
<td>0.26</td>
<td>66.6%</td>
<td>41.2%</td>
<td>92.0%</td>
<td>66.7%</td>
</tr>
</tbody>
</table>

**AVERAGE**  
62.0% 39.8% 87.7% 58.4%

---

1. Population as per 2005 census  
2. Quality of disclosures  
3. The quality of the website as an accountability medium  
4. Qualitative characteristics of financial information
The literature indicates that the quality of reporting may be determined by the size of the organisation. In this study, a comparison was made between the LEGA scores for Metropolitan (mean score 61.6%) and Non-metropolitan (62.3%) cities and no significant differences were identified either in the overall LEGA score or the individual categories scores using two-tailed T-tests.

**Table 5 Summary t-Tests for the mean results between Metro vs non-Metropolitan Cities**

<table>
<thead>
<tr>
<th></th>
<th>Metropolitan cities</th>
<th>Non-metropolitan cities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overall score</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Scores</td>
<td>61.62%</td>
<td>62.30%</td>
</tr>
<tr>
<td>Variances</td>
<td>1.49%</td>
<td>1.17%</td>
</tr>
<tr>
<td>t Stat</td>
<td>-0.1130</td>
<td></td>
</tr>
<tr>
<td>P(T&lt;=t) two-tail</td>
<td>0.9119</td>
<td></td>
</tr>
<tr>
<td>t Critical two-tail</td>
<td>2.1788</td>
<td></td>
</tr>
<tr>
<td><strong>Quality of disclosures</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Scores</td>
<td>40.00%</td>
<td>39.56%</td>
</tr>
<tr>
<td>Variances</td>
<td>1.82%</td>
<td>1.72%</td>
</tr>
<tr>
<td>t Stat</td>
<td>0.0640</td>
<td></td>
</tr>
<tr>
<td>P(T&lt;=t) two-tail</td>
<td>0.9499</td>
<td></td>
</tr>
<tr>
<td>t Critical two-tail</td>
<td>2.1604</td>
<td></td>
</tr>
<tr>
<td><strong>Website potential as an accountability medium</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Scores</td>
<td>89.14%</td>
<td>86.50%</td>
</tr>
<tr>
<td>Variances</td>
<td>0.61%</td>
<td>0.18%</td>
</tr>
<tr>
<td>t Stat</td>
<td>0.7974</td>
<td></td>
</tr>
<tr>
<td>P(T&lt;=t) two-tail</td>
<td>0.4457</td>
<td></td>
</tr>
<tr>
<td>t Critical two-tail</td>
<td>2.2622</td>
<td></td>
</tr>
<tr>
<td><strong>Qualitative characteristics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Scores</td>
<td>55.71%</td>
<td>60.83%</td>
</tr>
<tr>
<td>Variances</td>
<td>4.58%</td>
<td>2.75%</td>
</tr>
<tr>
<td>t Stat</td>
<td>-0.5122</td>
<td></td>
</tr>
<tr>
<td>P(T&lt;=t) two-tail</td>
<td>0.6186</td>
<td></td>
</tr>
<tr>
<td>t Critical two-tail</td>
<td>2.2010</td>
<td></td>
</tr>
</tbody>
</table>

Consistent with Parker and Gould (1999), the findings from this study of South Korean municipal governments strongly suggest a commercial orientation in their website reporting. All the city governments, in one way or the other, report on their financial and non-financial performance in a manner similar to private corporate reporting. Regular release of the LFD report and financial report through websites is evidence of governmental efforts to discharge both managerial and public accountability. However, the lack of consistent and regular non-financial performance reporting was observed in all of the local authorities’ websites, highlighting the fact that they usually do not attempt to go further than fulfilling...
the regulatory disclosure requirements. This is consistent with the view that public sector reporting practices are limited in terms of their accountability to the broader community due to the hierarchical nature of accountability relationships within the public sector (Broadbent and Laughlin, 2003; Funnell, 2001, 2003; Parker and Gould, 1999).

The performance measures disclosed tended to be mostly financial. Some of the non-financial indicators, including some environmental reporting and rarely, KPI reporting, were not consistent between different governments and provided limited opportunity for comparison or benchmarking. The quality of performance information was inferior relative to other parts of annual reports. The literature suggests that in public sector organisations, non-financial performance measures are pivotal because their objectives are predominantly concerned with such important matters as social, cultural, economic, and environmental dimensions. Thus, in order to achieve satisfactory external / public accountability, these non-financial processes, outputs and outcomes should be measured, accounted for and reported externally (Mayne, 1997; Stewart, 1984). The lack of non-financial reporting by South Korean local governments indicates that their current reporting practices are insufficient to fulfil their accountability obligations to the broader community.

The absence, among the fifteen municipal governments, of a single comprehensive means of discharging accountability, such as an annual report, is also a concern. Annual reports play the most significant role in discharging accountability of any organisation (Coy and Pratt, 1998; Sinclair, 1995). The literature recognises the importance of annual reports for local governments to discharge their accountability due to the large number of stakeholders involved, and the diverse and complex relationships with them (Banks and Nelson, 1994; Coy et al., 2001; Ryan et al., 2002). While most of the key contents of annual reports could be found in the South Korean local government websites, they were available largely in a disaggregated form. Some of the major problems with such reporting practices in terms of assessing accountability of the local governments include the difficulty of making a comprehensive assessment at a point in time, and comparing performance with previous years or other similar public organisations.

Arguably, the focus of the South Korean local governments is more on improving transparency and anti-corruption by encouraging citizenship involvement with the government activities including budgeting processes, rather than on the broader concept of accountability itself. In relation to the quality of the information provided, supplementary technical reports lack detail and were not timely enough. This also indicates that information supplied via the web may lack reliability and credibility. However, it was evident that understandable and accessible key information was provided on the websites, which integrate various navigational features, for instance, simple layout, and interactive tools, such as one-click city news feeds and subscriptions, online policy suggestions or discussion forums, and provision of online public administrative services. A strong focus on dissemination of information and reducing the distance between government and citizen was apparent in all fifteen websites analysed.

Improving openness and citizenry participation in the administration of local authorities is largely the result of the ‘Saeol’ nation-wide E-government system, which stems from OPEN (Online Procedures Enhancement for civil applications) initiative designed to enhance openness and transparency and reduce corruption, and operated by the Seoul Metropolitan Government since 1999 (Kim et al., 2009). This E-government initiative is believed to be highly effective in South Korea due to the high penetration and growth rate of broadband, mobile and sophisticated information technology services (NIA, 2009; OECD, 2011b; Vishwanath and Kaufman, 1999). In this regard, while the quality of disclosures leaves room for improvement, especially in relation to evaluations of non-financial performance, the overt
efforts by South Korean local governments in engaging more closely with citizens in a more approachable manner are commendable and noteworthy.

Finally, the top LEGA index score achieved by Seoul Metropolitan City, which has significantly more resources and stakeholders than other cities, perhaps supports the view that this city has taken the lead in transparency and anti-corruption initiatives among South Korean local governments. Nevertheless, standardisation of the websites, as a result of Saeol E-government system, led to relatively similar LEGA index scores across all fifteen cities, in particular in regards to measures of openness, transparency and interactivity. Accordingly, the analysis shows that size has not had any significant influence on the quality of the websites, supporting the findings of Dixon et al. (1991), in contrast to those of Ryan et al. (2002).

Conclusion

The objectives of this study were to (i) develop a Disclosure Index for local government websites, (ii) apply the Index to South Korean municipalities and, (iii) assess whether the quality of internet reporting was determined by the size of municipalities as indicated by population.

The LEGA Index enables a comprehensive assessment to be made of local government websites which captures the quantity and quality of financial and non-financial disclosures, and the quality of the websites from the perspective of citizen users. Overall, the websites of the fifteen municipalities were found to be quite good with the main strengths being the disclosures of some of the financial information, the usability and transparency of the sites, and the completeness of the financial information. The main shortcomings were the absence of a comprehensive annual report by all of the local governments, and a focus on financial measures and information to the exclusion of non-financial measures. Arguably, this would better capture the essence of what local government is primarily about; the social, environmental, economic and political condition and development of cities. Consistent with the findings of prior research, the results of this study suggest that South Korean local governments are inclined more to a managerial accountability, rather than a broader accountability to the general public. The role of municipality size and the quality of websites was investigated and no significant differences were found.

Arising from the research two major recommendations are made. First, local governments should identify comprehensive key information that should be published annually on websites within three to four months of the balance date and be accompanied by an audit report on the financial statements. Preparation of a single comprehensive annual report available on their websites would help the South Korean local governments not only to improve their accountability but also their cost-efficiency as they would not need to divert limited resources into publishing several different reports.

Second, more effort should be made to identify and quantify objectives for performance evaluation purposes. As highlighted in the literature, performance evaluation is important not only for internal management purposes but also for discharging external programme accountability obligations (Mayne, 1997; Stewart, 1984). Hence, in order to fully discharge accountability to external stakeholders, performance across the wide range of local government activities should be measured and reported in ways that are understandable and meaningful to external as well as internal stakeholders. This would empower citizens to better monitor performance of their local government and help them to make more informed decisions.

As E-government is in its infancy, it is hoped that this study may provide ideas and motivation for managers and stakeholders of local governments in South Korea and elsewhere to improve the quality of their internet reporting in future. Further research could be con-
ducted to identify ways of improving the content and presentation of local government websites for accountability purposes. Comparative studies of local government in other countries could be undertaken. Perceptions of users of local government websites could be examined to find out the extent to which E-government initiatives are fulfilling their objectives and meeting the needs of stakeholders.
References


Conroy, O. K. (2002), The quest for performance measurement in non-profit organizations...


Funnell, W. (2003), Enduring fundamentals: Constitutional accountability and auditors-gen-
eral in the reluctant state, Critical Perspectives on Accounting, 14(1), 107-132.


Taylor, D. and Rosair, M. (2000), The effects of participating parties, the public and size on government departments' accountability disclosure in annual reports, Accounting, Accountability and Performance, 6(1), 77-98.


Appendix

Local E-Government Accountability (LEGA) Index

All 27 Index items may be scored from 0 to 5 according to the quality and detail of the disclosure. The criteria for the award of a ‘5’ for the first item in each of the three categories are shown below; scores of 0 to 4 are awarded pro rata for less comprehensive disclosures or poorer quality. Full details are available from the corresponding author.

Category A – Quality of Disclosures (17 items)

A1 Annual report
The most recent comprehensive Annual Report available; at least two previous Annual Reports accessible; separate financial statements and / or reviews available; downloadable & printable; free access.

Category B - The quality of website as an accountability medium (4 items)

B1 Transparency
Ownership of the site content displayed; contact information for technical support, senior officials and person responsible for content (postal address, phone number, email etc); organisational information (mission statement, corporate structure etc.); specific contents: other related institution, laws, reports, and publications; explanation and instructions of requirements imposed on citizens resulting from governmental activities; presence of security and privacy statements.

Category C - Qualitative Characteristics of Financial Information (6 items)

C1 Understandability
Glossary; additional ratios / tables; visual aids (graphics or other relevant images); commentaries about the financial information.