

The Use of Internet in Financial Reporting: A Review of Empirical Research

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Abstract

Internet has been used increasingly as a new communication channel in global business and its role expanded to include internet financial reporting. The rapid use of internet in financial reporting is translated into an increasing number of accounting research studies that address this topic. Firstly, accounting research aims to portray the use of internet in financial reporting and documents the variation in internet reporting practices. Secondly, accounting research takes a further step by investigating the relationship between firm-specific characteristics, corporate governance and internet reporting. Given the fact that the literature concerning nature and extent of internet financial reporting has proliferated in the last two decades and that a number of different methodologies have appeared in the literature, it is worthwhile to offer an updated review of what has been accomplished in the last two decades. This review is focused on the accounting literature, published between 1997 and 2017, aiming to portray the use of internet in financial reporting and documents the variation in internet reporting practices. The goal is to trace the progress in the last two decades and identify trends in internet reporting research.

Keywords: *Internet, Web, Internet Financial Reporting, Financial Information, Literature.*

Introduction

Internet has been used increasingly as a new communication channel in global business and its role expanded to include internet financial reporting (Ettredge et al., 2002; Jones and Xiao, 2004). In 2015, the number of internet users was about 3.4 billion, representing 46.40 percent of the world population, and the growth rate of internet users from 2000 to 2015 was 832.50 percent (Internet World Stats, 2015). This rapid growth of internet adoption draws the attention of several regulators bodies such as Financial Accounting Standard Board and the Canadian Institute of Chartered Accountants to adopt research or policy initiatives on internet financial reporting (Debreceny et al., 2002; Gowthorpe, 2000). The increasing use of internet financial reporting raised many questions regarding the motives and costs of such disclosure. On the one hand, FASB (2000) indicates several motives for the adoption of internet financial reporting such as reduction in distribution cost, providing timely information, best medium of communication with previously unidentified consumers of information, provides information at different aggregation levels, provision of raw data for analysis, flexibility of presentation, global reach access to historical data and up-to-date information. On the other hand, internet financial reporting may raise the incremental cost of preparing financial reports, the cost of providing additional assurance on internet financial reporting and the litigation cost resulting from relying on unaudited financial information in decision-making proposes (Gowthorpe, 2000; Xiao et al., 2002).

The rapid use of internet in financial reporting is translated into an increasing number of accounting research studies that address this topic. Firstly, accounting research aims to portray the use of internet in financial reporting and documents the variation in internet reporting practices (Ashbaugh et al., 1999; Craven and Marston, 1999; Lybaert, 2003). Secondly, accounting research takes a further step by investigating the relationship between firm-specific characteristics, corporate governance and internet reporting (Abdelsalam et al., 2007; Al-Htaybay, 2011; Aly et al., 2010; Xiao et al., 2004; Andrikopoulos and Diakidis, 2007).

Given the fact that the literature concerning nature and extent of internet financial reporting has proliferated in the last two decades and that a number of different methodologies have appeared in the literature, it is worthwhile to offer an updated review of what

has been accomplished in the last two decades. The purpose of this study is to provide an updated review and synthesis of the empirical literature on internet reporting to discover any systematic patterns in internet reporting practices.

The remainder of the paper is structured as follows. The next section describes the methodology of the study. The following section provides the review of relevant studies focusing on descriptive nature of internet financial reporting practices. The penultimate section concludes, discusses the research limitations and provides lines for further research.

Methodology of the Study

This review is focused on the accounting literature, published between 1997 and 2017, aiming to portray the use of internet in financial reporting and documents the variation in internet reporting practices. The goal is to trace the progress in the last two decades and identify trends in internet reporting research. Searching a variety of databases is important to find relevant literature related to the current status of internet financial reporting. Keywords such as nature and extent of internet financial reporting, current status of internet financial reporting, financial reporting on the internet, digital reporting, online reporting, electronic reporting, investor relations on internet, business reporting on the internet, corporate reporting on the internet, internet based reporting, corporate disclosure through web, corporate disclosure on websites are used to locate the relevant literature in ScienceDirect, Emerald, Springer, Jstore, EBSCO, SSRN and Wiley online library. In addition, the study uses the reference list of the collected studies to find more studies relevant to the analysis of internet financial reporting practices. The initial sample includes 64 studies (Table I). However, 12 papers are excluded because of theoretical base. These papers do not provide descriptive statistics. The identified studies come from some of the most popular journals in accounting, auditing, finance, management, economics, international business, marketing and human resources, including The Journal of Applied Business Research, African Journal of Business Management, Asian Review of Accounting, Journal of Economic & Administrative Sciences, Corporate Ownership and Control, The South African Journal of Information Management, International Journal of Accounting and Business Finance, The Cost & Management, International Journal of Accounting and Financial Reporting, The International Journal of Digital Accounting Research, IUP Journal of Accounting Research and Audit Practices, Corporate Governance, International Journal of Emerging Research in Management and Technology, The European Accounting Review, International Journal of Arts and Sciences, Asian Journal of Research in Banking and Finance, Malaysian Accounting Review, Accounting and Taxation, Asian Journal of Accounting and Governance, The Romanian Economic Journal, IUP Journal of Corporate Governance, Corporate Communication, International Journal of Business and Society, ICAFI Journal of Bank Management, The Chartered Accountant, among others. Like other reviews, the current review is limited by its inclusion of only English studies.

Table I
Sample Selection Criteria

Initial Sample	64
Exclusion Criteria	
Theoretical Papers (without descriptive analysis)	12
Final Sample	52

Review of Descriptive Studies on Internet Financial Reporting

The increasing use of internet has been reflected in the increasing number of research papers that discuss that analyse the use of internet in financial reporting (Xiao et al., 2002). Two streams of accounting literature that discuss web-based reporting have been identified: the first stream aims to describe the use of internet reporting by companies as a means to have a dialogue with their stakeholders (Gowthorpe, 2004), while the second stream of literature aims to measure the extent of internet reporting and its determinants (Al-Htaybat, 2011). The first stream of accounting literature, flourished in the 1990s, uses descriptive and bivariate statistics to portray the use of internet reporting (Allam and Lymer, 2003; Ashbaugh et al., 1999; Craven and Marston, 1999; Gowthorpe, 2004). This stream of literature aims to test the differences in internet reporting practices between companies with websites and their counterparts without

websites or to examine the differences between companies that provide and those that do not provide financial information in their websites. Following paragraphs provide the review of relevant literature describing the use of the internet in financial reporting.

Lymer (1997) carried out a survey of the extent of the internet corporate reporting practices, especially financial and non-financial information, amongst 50 companies listed on LSE in 1997. The study concluded that 92 percent of the study sample had active websites. 60 percent of these companies disclosed their reports and accounts on their websites, and 32 percent out of these firms published full accounts.

Lymer and Tallberg (1997) conducted a study of the website reporting practices in 1997, over 50 top UK and 72 Finland companies listed on Helsinki Stock Exchange (HSE). The results indicated that possession of active websites was 92 and 90.20 percent for the UK and Finnish companies respectively. Out of these 7 and 5 companies provided full accounts from each country respectively.

Martson and Leow (1998) analysed FTSE-100 firms in the UK to determine the status of corporate web disclosure. The study found that 63 percent of the sample firms examined had homepages, 45 percent provided some form of financial information, and 34 percent of these, provided detailed annual reports (11 disclosed only parts or summaries of their annual reports).

Deller et al. (1999) conducted a comparative study using a checklist consisting of 19 items to measure the extent of financial reporting for investor relations on the internet over 300 companies selected from three countries, USA, UK and Germany, 100 largest companies from each country. The results showed that the percentage of the web presence of the companies in the three countries was 95 percent in USA, 85 percent in UK, and 77.6 percent in Germany. The results also indicated that for these companies the percentage of website usage for investor relations reporting was 91 percent of the US companies compared to 72 percent for UK and 71 percent for Germany.

Heldin (1999) conducted a survey to explore the position of 60 Swedish companies from three identified generations of websites reporting development in 1998. The results indicated that 99 percent of the companies had a usable website. 83 percent of the companies published full financial statements. It also concluded that the Swedish companies located in the second generation of the internet reporting development.

Lymer et al. (1999) surveyed web based financial reporting practices of the 660 public corporations in 22 countries in Europe, Asia Pacific, North and South America. It was found that 86 percent of the sample companies had websites while 410 (72%) companies had some form of financial reporting on their websites. Of these, 234 (57%) companies had in-depth reports on their websites in HTML, indicating a higher level of investment in making information available than merely by electronic paper. The study concluded that a significant number of companies in many countries used the web for communication of business performance to stakeholders.

Pirchegger and Wagenhofer (1999) analyzed the use of Internet to present financial information by 32 Austrian companies and 30 German companies by using four criteria of website reporting, namely: the content, technology, timeliness and user support criteria. The study found that percentage of web presence is close between Austrian and German companies in 1998, which were 81% and 80% respectively. Comparison of Austrian and German websites in 1998 showed that German websites did not substantially differ, on average, but were much more homogeneous in the scores than Austrian companies.

Financial Accounting Standard Board (2000) carried out a survey of 100 US companies listed in Fortune 500 in 1998 on checklist consisted of 325 characteristics of the company website, separated into two main categories: general characteristics of the website and investor relations characteristics. The survey results showed that the entire sample had websites with graphic animations such as maps, 88 percent enclosed table of contents, 64 percent with search boxes. In respect to investor relations information, the study found that 93 percent of the sample published such information on their websites.

Ponte et al. (2000) analyzed the financial contents of the websites of 50 companies listed on the Dow Jones Eurostoxx 50 index as of October 1999. It was found that 100 percent of the companies had active websites and 100 percent supplied the full annual accounts. Interim statements (half yearly or quarterly) were provided by 90 percent companies, but they were not audited. A number of companies (62%) provided five year summary accounts and a few of them (38%) included financial ratios. Environment information was disclosed by 20 companies (40%), 40 companies (80%) provided information on strategy, only 2 (4%) offered information about intellectual capital.

Information about customers and suppliers was not present. Almost all of the sites (94%) made press releases available and 21 companies (42%) offered mailing lists to keep stakeholders currently informed by e-mail. Shareholders information included: news (84%), meetings (54%) and structure (46%). No real time information had been found except for share prices.

Hurt et al. (2001) carried out a research into the 100 biggest corporations in the USA (Fortune 100) to find out the status of corporate web disclosure. The results showed that 93 percent of sample firms had their own homepages. Of these, 74 percent disclosed position statement and 70 percent disclosed income statement as well. It was also found that 65 percent of the firms with homepages provided notes, management's analysis of operations and 61 percent firms provided auditors' reports.

Ettredge et al. (2002) examined the dissemination of information for investors at corporate websites based on a list of 4 required items and 12 voluntary information items. The most common voluntary item was the financial news releases found on 81 percent sites. Other voluntary items were transfer agent information (56%) and stock price link to other websites (50%). Required items included quarterly reports (57%) annual reports (53%) and links to EDGAR (51%). The authors found that 3 out the 4 required items were found on more than half of the sites, compared to only 3 out of 12 voluntary items. Therefore, there was greater uniformity in the presentation of required information relative to voluntary disclosure and, on average more required items were found on each web site than voluntary items.

Lybaert (2003) studies 180 companies listed on Amsterdam Stock Exchange (ASE) in 2000 to examine content, timeliness, technology features and user support aspect of financial information reported on websites. The results showed that 156 of the sample companies had websites. 53 companies provided full annual reports in addition to extra information, compared to 66 companies which provided only annual reports and 37 just published separate financial items. In respect to timeliness, the study revealed that there was a lack of up-to-date information and interim reports as well. The study also concluded that the Netherland companies employed poor quality of web technologies.

Allam and Lymer (2003) examined the level of internet disclosure, which was measured by using an unweighted disclosure index of the presentation format and content of annual reports. The study applied to 250 companies sampled from 5 countries, 50 companies from each, namely: the USA, the UK, Canada, Australia and Hong Kong. The findings revealed that 99% of the sample had accessible websites. The study ranked the companies from US, the UK and Canada as prominent in internet reporting practices. The differences in the extent of internet reporting among countries were significant except the differences between the US and the UK.

Marston (2003) examined top 99 Japanese listed firms to find out the level of corporate disclosure through web. The results revealed that 91 (92%) out of top 99 firms had home pages. A total of 78 firms (79%) contained an English version on their home pages. Of these, 68 firms (69%) provided financial information on their homepages. 11 firms (16%) provided only information in summarized form, whereas remaining 57 firms (84%) provided comprehensive information including at least a position statement and income statement.

Gandia (2003) examined the disclosure of intangible information on the Internet by Standard and Poor's Global 100 index companies. The survey of the web sites demonstrated that companies' Internet intangible disclosure ranged at a medium level in relation to their innovative and commercial capacity. In fact, practically half of them disclosed the level of expenditure in R&D, but only 13 percent disclosed historical data about its temporal evolution, only 19 percent indicated the intensity of said investment. However, nearly 50 percent of the companies supplied information about the evolution of their current R&D projects.

Singh and Malhotra (2004) analysed the nature and extent of disclosure on the homepages of 54 banks (27 public sector and 27 private sector banks). The study found that of the 54 banks, 94 percent disclosed some form of financial information while 85 percent disclosed detailed accounting information including at least profit and loss account and balance sheet. Only 28 percent banks provided full detailed annual reports on the homepages. Private and young banks showed a higher level of disclosure over the Internet. None of the bank provided information on social and environmental report. Only a few banks presented social information on their websites.

Lodhia et al. (2004) investigated 50 largest Australian companies to identify the extent of the internet reporting using the disclosure checklist that was previously employed by Allam and Lymer (2002). The study concluded that the Australian companies mainly used the internet to communicate electronic copies of annual reports in addition to some extra discretionary information.

Hamid (2005) examined the use of the web by Malaysian-listed companies for corporate information. The sample for the study consisted of 100 stock market index-linked firms listed on the Kuala Lumpur Stock Exchange. The results showed that only 70 companies disclosed investor relations information on their websites. The highest ranking investor-relations item was the background of the companies. The results confirmed that a gap existed between developed countries and developing countries with respect to the utilization of Internet for investor-relations purposes.

Smith and pierce (2005) investigated the Integrity of Internet financial reporting (IFR) by reference to the existence of IFR-specific corporate governance procedures in 1000 large European companies. The results of the study indicated that the slow development of IFR attributed to regulatory legal uncertainties was compounded by a lack of knowledge of IFR characteristics on the part of preparers. Erroneous assumptions and claims by respondents regarding the security of IFR, in addition to knowledge of work undertaken by external auditors, indicated limited engagement with IFR by management of large European companies. The study concluded that the governance framework surrounding IFR had received insufficient managerial attention.

Sortur (2006) conducted a study of 32 companies to analyze the trends in corporate web disclosure in India. The results revealed that 24 (75%) out of 32 companies provided annual report under the investors heading. Majority of the companies (93.75%) provided their annual reports in portable document format. Further, 26 out of 32 companies provided their annual report with down loadable option to assist the investors in offline analysis of data.

Bollon et al. (2006) extended prior research on the use of the Internet for investor relations (IR) activities by investigating the quality of IR websites. Detailed data on IR website characteristics were collected for 270 companies located in six countries (Australia, Belgium, France, the Netherlands, South Africa and the UK). The results of the descriptive part of this study showed that the IR section of its website was an established element in a company's Internet presence as, on average, over half of the 29 IR characteristics were found on the corporate websites. The results of the study indicated that studies on the use of the Internet for IR activities may benefit from the use of a detailed measure of website quality.

Sriram and Lakshmana (2006) evaluated the value, relevance and quality of reports presented on corporate web sites by 212 firms (106 high-tech firms and 106 traditional firms) selected from Fortune-1000 list published on April 15, 2002. As a benchmark, the study used the recommendations made by the Jenkins Committee (1994) to improve corporate reporting practices. The findings revealed that most corporations did not follow “best disclosure practices” when reporting information on their web sites. Only about half of the 26 disclosure items recommended by the Jenkins Committee were reported, and less than fifty percent of the sample firms in the study made such disclosure. Some of the items that the Jenkins Committee recommended as essential for improving quality and relevance of reporting such as forward-looking information and non-financial items were least often reported. The findings of the study suggested that corporations must improve their web site disclosures for investors to find them valuable, relevant, and useful.

Dutta and Bose (2007) investigated the utilisation of Internet for communicating corporate information by 268 companies listed on Dhaka Stock Exchange (DSE) and Chittagong Stock Exchange (CSE) of Bangladesh. The study showed that web-based corporate reporting in Bangladesh is still in its infancy. Only 38.81 percent of sample companies had a web site. A wide variation in the level of on-line corporate reporting across 15 sectors had been found. The highest ranking sector was banking, leasing and finance sector.

Andrikopoulos and Diakidis (2007) studies disclosure practices on the web sites of 140 companies listed in the Cyprus Stock Exchange. The study found that only 66.4 percent (93 out of 140) produced a positive value for Internet reporting. Highest score was achieved for the availability of an email contact (63%) and the availability of financial statements (30%). This was an impressively low score on the financial statements, given the fact that the listed companies were obliged to report their financial results on corporate web sites. On the other extreme, there was no company making pro forma financial statements available on its web site. The study concluded

that financial reporting on the Internet was not largely adopted for the firms listed in Cyprus Stock exchange, as compared with international evidence in this area.

Abdelsalam et al. (2007) examined corporate Internet reporting (CIR) comprehensiveness of companies listed on the London Stock Exchange by using an innovative 143-item disclosure checklist. The findings indicated that despite this new regulatory environment, there was considerable room for improvement in CIR by London-listed companies. For example, sample companies provided only 58 percent and 70 percent, respectively, of the credibility and usability items assessed by comprehensiveness index

Zhang et al. (2007) examined the Internet environmental reporting practices of 20 Chinese top listed companies. The study found that Internet environmental reporting (IER) is increasingly used in China to disclose corporate social and environmental activity and policy. Companies were increasingly using the phrases of 'sustainability' and 'corporate social responsibility' in their Internet environmental reporting. Website-specific reporting concerning social and environmental issues, performance and activities had growingly been adopted by Chinese top listed companies as the main approach to IER.

Khan et al. (2008) made an attempt to provide an appraisal of the current practice of corporate financial reporting on the Internet by top 30 Bangladeshi companies listed on Chittagong Stock Exchange. The research revealed that 12 (40%) of the top 30 companies had web sites for the purpose of promoting their business. 75% of the companies having web sites disclosed financial statements on Internet. It was also observed that contents of the digital annual report of the companies differed from the contents of the printed report. Further, most of the companies having web sites presented financial information PDF format. Only 20% of the companies having web sites presented financial information by using HTML

Malarvizhi and Yadav (2008) conducted a study of top 24 Indian companies to examine the general trends in corporate environmental internet reporting practices. The researchers observed that Indian companies followed diverse reporting practices on the Internet viz, stand alone environmental reporting (satellite accounts) or reporting along with the annual/financial reports, or sustainability reporting (which include the economic, environmental and social issues). It was also found that Indian companies did not include quantitative disclosure on their environmental initiatives. Majority of the companies kept themselves limited to descriptive information without disclosing the amount of operating expenses and environmental investment made in a financial year.

Al-Moghawali (2009) documented the extent and variety of Internet financial reporting (IFR) by the 43 companies listed on the Doha Securities Market. The findings of the descriptive analysis indicated that 39 of the 43 listed companies operated web sites, of which only 28 provided financial information on their web sites. Of these 28 companies, 25 provided a complete set of financial statements (including footnotes and the auditor's report) for two-year periods or more. The results also showed that the majority of the Qatari companies (25 out of 28) used the PDF format to disclose their financial information and few companies used the Internet to provide additional financial highlights, in the form of HTML and MS PowerPoint.

AI-Arussi et al. (2009) examined the extent of Internet financial disclosure (IFD) by 201 Malaysian-listed companies. It was found that 60% to 63 Percent of companies disclosed some financial information on their web sites. 62.9 percent of the companies disclosed both current release and news operation review items. 60.8 percent of the companies disclosed their annual reports and 58.8 percent of the companies disclosed financial highlights item. These were the most common disclosed items on the web sites. This was followed by the annual reports for the past years (51%), quarterly reports (46.9%) and its contents such as statement of income, balance sheet, cash flow statement, and accounting notes. However, 12.4 percent companies were concerned with half year reports and 7.7 percent were concerned with performance charts. As this information is critical for the investors, the findings showed a significant deficiency in the style of IFD amongst Malaysian-listed companies.

Fekete et al. (2009) analysed the comprehensiveness of corporate Internet reporting of 48 Romanian listed entities. The study found that the level of disclosure of Romanian companies was very poor among (averaging only 28.15%). It was also found that the bigger and financially stable firms provided more information on their web sites.

Garg and Verma (2010) examined the use of Internet for corporate reporting in India. Internet Disclosure Index was calculated to measure the type and extent of web disclosure, using a sample of 200 companies. The study revealed that all the 200 sample companies

had their web sites. However, the contents of each web site varied. On an average, 60 percent of the companies have internet disclosure index between 40 percent and 60 percent, which showed that web sites of a majority of Indian companies were very good in terms of content, quality, presentation and technical aspects.

Shukla and Gekara (2010) investigated the utilization of web-based facilities for communicating corporate information by companies in India and China. The study revealed that of the Fortune 500 companies in India, 416 (83.20%) had active web sites. Out of this 409 companies, 98.31 percent distributed their current year annual reports on their web sites and 125 (30.05%) also included auditors' reports of the previous year. On the other hand, 402 (80.40%) of the Fortune 500 companies in China had active web sites. Out of this, 400 distributed their current year annual reports on their web sites and 23 (5.72%) also included auditors' reports of previous years. The study showed that web based corporate reporting is relatively high in the two emerging economies of Asia.

Ali (2010) investigated the current level of corporate reporting on the Internet by top 10 companies listed on the New Zealand Stock Exchange (NZX 10). The results showed that although there was some information such as press releases, investor presentations and dividend information that all companies were disclosing on their websites, there were other areas of voluntary information disclosure where New Zealand companies seemed to be lagging behind their overseas counterparts.

Homayoun and Rahman (2010) examined the extent of Internet corporate disclosure among a sample of 100 top companies listed on Bursa Malaysia (based on market capitalisation). Using a disclosure score checklist, the results showed that average score for all companies was 49.04 (56%) of the total possible 87 points, and 70 percent of the firms obtained a score ranging from 50-70 percent of the total score. These results indicated that there is still a room for Malaysian companies to improve their Internet corporate reporting

Al-Htaybat (2011) made an attempt to identify the status of ICR applications of all (272) companies listed on the ASE in 2010. Therefore, an unweighted disclosure checklist containing 70 items was developed, comprising 20 general items, and 50 financial and non-financial items. The study concluded that 64% (175) of Jordanian companies had active websites. The overall level of ICR was 70% on average.

Khan and Ismail (2011) analysed the issue of the level of Internet financial reporting (IFR) by 182 companies listed on the Main Board of Bursa Malaysia. The research findings disclosed that the real level of IFR ranged from 48.28 percent (42 items) to 78.16 percent (68 items). Two companies (1.1%) obtained the highest IFR at 78.16 percent. However, one company in the property sector obtained the lowest IFR score at 48.28 percent. The overall reporting level score was 65.10 with 62.07 (54 items) as the highest frequency. The findings suggested that, on average, the level of IFR of the sample companies was satisfactory.

Lamani and Cepani (2011) examined the extent and the nature of Internet financial reporting by 16 banks and 10 insurance companies in Albania. The findings of the descriptive analysis indicated that out of 26 examined companies, 24 did operate web sites, whereas 20 of the latter provided financial information on their web sites. Of these 20 companies, 16 (80%) provided financial highlights, 14 (70%) provided annual reports. Only 7 companies (35%) provided annual reports and additional financial highlights for two-year periods or more. These results indicated that Internet financial reporting was a significant common practice among the sample companies.

Baard and Nel (2011) evaluated the contents of IR information available on web sites of 40 largest companies in each of the countries (Egypt, Kenya, Morocco, Nigeria, South Africa and Tunisia). The study found that only 81percent of the companies investigated had working web sites. Of the 81percent of the companies with corporate web sites, only 80% made use of a dedicated IR section or provided scattered financial information without a dedicated IR section. Furthermore, of the companies with dedicated IR sections on their corporate web sites, five and nineteen respectively did not supply annual reports or archive annual reports. The study concluded that a significant number of companies did not optimally utilised web sites according to international best practices.

Pervan and Bartulovic (2012) compared the level of internet financial reporting among selected CEE countries (Croatia, Slovenia, Serbia, Bosnia and Herzegovina). The study concluded that there were differences in the level of Internet financial reporting among the observed countries. The highest level of Internet financial reporting (23.35%) was reported in Slovenia, followed by Croatia with an average IFR grade of 21.27 percent. Quite lower values of IFR score were noticed among Serbia, Bosnia and Herzegovina.

Patel (2012) investigated the use of the Internet for IRs purposes by 50 Indian companies listed on National Stock Exchange. Results showed that all 50 Indian companies had a web site. 49 (98%) companies contained IR material in the form of annual report or other financial results, while only one company did not have it. The most common IR information was company background which was featured on all 50 company sites. Only 21 (42%) companies had an analyst section or content for evaluation by the analysts. A good thing was that 49 (98%) companies had downloadable annual financial reports of at least past five years on their web sites. 37 (74%) companies had power point presentations about company's financial state or proceedings of annual general meetings for investors' reference. Further, Indian companies had scored well on the navigation and designing front, as on an average 89% of the web sites were professionally designed and were easy to access. Websites of Indian companies, however, lack on the interactivity front, as mere 10 (20%) companies facilitated two-way communication between the company and the investors.

Oyelere and kuruppu (2012) investigated the use of Internet as a channel for voluntary communication of financial information by 132 companies listed on two stock exchanges in the United Arab Emirates (UAE). While about 87 percent of UAE-listed companies were found to operate web sites, only 88 of these companies (about 67%) used their web sites to communicate financial information. However, Internet financial reporting was not restricted to the publication of annual financial statements only as the companies also disclosed financial highlights through their web sites using a variety of formats including PDF, flash and HTML. The results of the study indicated that, similar to other Middle Eastern Countries, internet financial reporting is still at an embryonic stage in UAE and there are considerable opportunities and challenges from all stakeholder parties in corporate communication and reporting.

AbuGhazaleh et al. (2012) examined online reporting practices of 195 Jordanian Listed companies. Results of the study revealed that 80 companies with web sites (76%) disclosed at least one piece of information related to IR. However, only 40 web sites (38%) had a specific IR section entitled investor relations or an equivalent such as financials, financial information, financial statements, or shareholder information. Most common was information on the board of directors followed by a mission statement. Other financial information such as notes, cash flow statements and auditor's report were less common, reflecting the fact that very few companies made their complete set of annual accounts available on the web site.

Agyei-Mensah (2012) conducted a study to analyse all the firms listed on the Ghana Stock Exchange (GSE) in terms of its ability to communicate both financial and non-financial information using the Internet as a medium. The results showed that 27 (77.14%) had web sites and 8 (22.86%) did not have web sites or the web sites were not accessible. The study suggested that management of Ghanaian listed firms should embrace the Internet as a tool for not only communicating with stakeholders, but as a means of business growth through proper utilisation of the competitive edge that information and communication technology provide to business.

Malhotra and Makkar (2012) conducted a study to know the extent of web reporting practices in the Indian corporate sector and inter-sector comparison of web reporting practices. A sample of 50 companies from different sectors was covered for this purpose. The analysis of results of the study showed that about 80 per cent of the sample companies provided mandatory and voluntary information. The banking sector provided financial information to a greater extent compared to the other sectors. Balance sheet and profit and loss account had been provided in a majority of the cases, and only a few companies provided the director's report and auditor's report. Most of the companies provided information about the company profile, company history, company products and services, etc. and did not give any relevant information from the user's point of view.

Umoren and Asogwa (2013) conducted a study to analyze the ability of Nigerian listed companies to communicate financial information via the internet. The result shows that 80.8% of listed companies in Nigeria have websites while 19.2% did not have websites or their websites was not accessible. Of the 159 companies with official websites only 46.54%, 61% and 41.51% of companies have downloadable financial reports of 2010, 2011 and 2012 respectively. The highest percentage was for 2011 financial year, where the listed company sites provided 2011 annual reports for their investors. The most recent annual IR reports of 2012 were not available on the Web. This is meant to be in IFRS format. Quarterly reports are presented by only 29.6% of all the companies while only 31% presents financial highlights. Companies with corporate governance page also recorded a low turnout of 22.6%. Both the directors and management information on the corporate website have an above average percentage of 67.9% and 66.7% respectively. Only few

companies provided share and corporate social responsibility information (20.1% and 32.7%). The least information provided was environmental policy (10.1%) and sustainability reports (3.8%). This reveals that Nigerian companies hardly provide environmental information. Most of the websites were used in advertising the company's products/services and to enhance their corporate image.

Pertiwi and Hermana (2013) evaluated financial disclosure on websites of 25 banks and 9 non banks go public in Indonesia using the Internet Financial Reporting Index. The Internet Financial Reporting Index consisted four elements namely content, timeless, technology and user support. The results of the study showed that there was differences in internet financial reporting index between bank and non bank go public in Indonesia. Internet financial reporting index of bank was higher than internet financial reporting index of non bank. The user support score was higher than the content index, the timeless index and the technology index. The result of the discriminant analysis showed that the internet financial reporting index was the most differentiated variable group of banks and non banks and the accuracy for the discriminant function was 67.6 percent.

Momany and Pillai (2013) investigated the extent of Internet Financial Reporting (IFR) among United Arab Emirates (UAE) companies listed on the Abu Dhabi Securities Exchange (ADX). The population of the study consists of all the 65 companies listed on the first market of ADX, divided into ten (10) sectors based on ADX classification. The findings showed that 89% of the listed companies had websites while 11% did not have web-sites. Also, 60% of the ADX-listed companies having web-sites revealed financial information on-line whereas the remaining 40% did not disclose financial information on their web-sites.

Elhelaly and Mohamed (2014) investigated the extent and variety of practices of internet financial reporting (IFR) by 100 companies listed in the Egyptian Stock Market (CASE). Companies were investigated to ascertain whether they maintained websites and/or if these sites were being used for communicating financial information. Only 36 of the listed companies on EGX 100 were found to operate websites, with even less (only twenty nine) engaging in IFR. However, IFR was not restricted to the publication of annual financial statements only as the companies also disclosed financial highlights through their websites. The results of this study indicated that IFR is still at an embryonic stage in Egypt and there are lots of opportunities and challenges for all stakeholder parties in corporate reporting.

Keliwon (2014) investigated the IFR disclosure strategies being used by publicly listed firms in Malaysia. A detailed content analysis of the IFR disclosures of two firms revealed that both firms adopted different types of IFR disclosure strategies even if they were in the same industry. This finding provided preliminary evidence on the possibility for firms to utilize multiple IFR disclosure strategies. The findings from this study could also help stakeholders understand the IFR disclosure strategies that were possibly employed by firms, which could subsequently help them in making decisions.

Singh and Singh (2015) analysed the extent of financial disclosure by Indian public and private companies and investigated if any difference occurred between two sectors. The empirical research based on top 30 companies listed on BSE, examined items wise and company's wise financial disclosure through internet. The result showed that both sectors utilized their websites for financial disclosure to some extent. Further Mann-Whitney test showed significance differences in IFR practices between two sectors.

Khan and Azli (2015) attempted to investigate the current status on the disclosure item of internet financial reporting (IFR) among listed companies in Bursa Malaysia based on preparers and users perception. Content analyses were used to provide evidence on internet financial reporting practices by 280 listed companies. The items of disclosure in the development of the IFR disclosure index were based on the perspective of preparers and users. Based on the research findings, the level of IFR ranged from 56.43 to 87.14 per cent. The findings also showed that the overall level of IFR listed companies in Bursa Malaysia were considered good. The implications of the research findings and future research have been discussed.

Kuruppu et al. (2015) examined the use of the internet as a medium for the voluntary communication of financial information by publicly traded companies on the Colombo Stock Exchange (CSE) in Sri Lanka. The 244 companies listed on the CSE were analysed by its 20 industry sectors. The results indicated that IFR is still at a nascent stage in Sri Lanka and there are considerable opportunities and challenges for all stakeholder parties. While 59 percent of companies maintained websites, only 63 of these (about 43%) used their websites to communicate financial information. This indicated that companies in Sri Lanka did not fully garner the benefits of engaging in

IFR. However, the online annual reports of the latter IFR companies were found to be highly accessible, with 87 percent of the websites enabling users to locate information in three mouse clicks or less. Industry affiliation was found to be an important factor in determining the intensity of IFR practices as revealed by the statistically significant Pearson Chi-square test and the Likelihood ratio. It was also found that although a variety of reporting formats were utilised for engaging in IFR, PDF was the most widespread format with 92 percent of CSE listed companies using this medium.

Das and Das (2015) determined the extent and trend of mandatory reporting practices on the internet by the listed non-financial companies in Bangladesh. The final sample consisted of 141 non-financial companies listed in the Dhaka Stock Exchange, Bangladesh. This study used self-constructed checklists of 103 items based on acts and laws relating to mandatory reporting. Current study observed that the mean of the total mandatory disclosure score for the sample was about 60.57% with highest disclosure in the telecommunication sector which is 85.44% whereas tannery sector disclosed the lowest with only 37.86% of mandatory information posted on the internet.

Bhatia and Kaur (2016) evaluated the use of Internet for communicating corporate information by the commercial banks operating in India. The study consisted of 47 public and private commercial banks. The results showed that disclosure varied widely within public and private banks. It was also found that from the presentational aspect, websites of private banks were better than public banks. Both public and private banks focused more on the finance related information on their websites.

Hanafi (2016) analysed and compared the quality of the Internet Business Reporting practices among the companies in these three developed countries (i.e., United States, United Kingdom and Singapore) and developing countries (i.e., Thailand and Malaysia). Detailed steps and approaches were taken in designing the research. Furthermore, an index known as the Internet Business Reporting Quality was used to measure the quality of the Internet Business Reporting practices. The results substantiated the existing studies on the variation in the Internet Business Reporting practices among the companies in five countries. The quality of the Internet Business Reporting practices was found to differ significantly among the companies in the developed and developing countries, as well as across the individual five countries.

Al-Sartawi (2016) attempted to measure the level of Online Financial Disclosure in the Gulf Cooperation Council Countries. Extensive literature review was carried out and a checklist of 90 items (71 for content and 19 for presentation) was developed to measure the level of Online Financial Disclosure for the companies listed in the Gulf Cooperation Council Bourses. The findings showed that the overall level of Online Financial Disclosure in the Gulf Cooperation Council was 77% but it varied across the sampled firms according to countries and industry type. The study recommended that regulatory bodies should develop a guideline for disclosing information through the internet in order to enhance the corporate transparency level among the Gulf Cooperation Council listed companies.

Sharma and Kaur (2016) examined the extent of Intangible assets disclosure both in annual reports and on websites of top 11 Indian listed companies and also determined the extent of Intangible assets as per the category wise, element wise, sector wise, company wise and size wise. Content analysis was used to examine the intangible assets reporting of a sample of top 11 ET 500 companies selected as per market capitalization for the year 2012-13. By considering Sveiby (1997) framework, this paper reviewed the annual reports and websites of the selected Indian companies. The result indicated that Intangible assets reporting was low and in narrative form. The most disclosed element were copyright, corporate culture, brand, customers, company's name, business collaboration, employee education while the least disclosed element were favorable contract and franchising agreement. The most reported category of Intangible assets was internal capital followed by external capital and employee competence were the least reported category. IT sector had highest disclosure rate among all sectors and Tata consultancy services limited had the largest Intangible assets disclosure among the top 11 Indian listed companies in the year 2012-13.

Kaur and Kaur (2017) reported the results of an empirical investigation of the extent of web disclosure practices of 26 public sector banking companies in India. A disclosure checklist of 58 items of information was developed and statistical analysis was performed using one way ANOVA. The study revealed that Indian public sector banks were disclosing considerable amount of information on their websites. The findings also indicated that size was insignificant in explaining the level of web based disclosure practices of Indian public sector banking companies.

Qasim and Al Barghouthi (2017) examined the level to which companies listed in Abu Dhabi Securities Exchange and Dubai Financial Market was engaged in internet financial reporting (IFR). This objective was satisfied through the use of survey analysis on the websites of 113 companies listed in Abu Dhabi securities exchange (ADX) and Dubai Financial Market (DFM) as on October 2016. The analysis relied on the use of a checklist containing 27 items covering corporate IFR practices. Results showed that companies engaged in IFR practices were using their websites as an electronic version of their printed annual reports. On average, 69% and 68% of companies listed in ADX and DFM (respectively) incorporated IFR information on their websites. Nevertheless, potentials of the internet as a communication tool to develop a two-way communication dialogue with the investment environment as well as broadcasting up-to-date information and broadcasting Video and audio files were not fully exploited by companies.

Summary, Limitations and Suggestions for Further Research

The results of the above studies indicate the growing use of the internet for companies by disseminating information, including financial information (annual reports, financial statements and financial summaries) on the internet. The results also documents a significant variation in the quantity, depth and presentation style of the disclosed information between companies, specially in developing countries where some countries have a high level of internet financial reporting such as in Sweden (Heldin, 1999), India (Sortur, 2006), Albania (Lamani and Cepani, 2011) and UAE (Qasim and Al Barghouthi, 2017), and others have low level of internet financial reporting such as in Bangladesh (see Dutta and Bose, 2007), Romania (Fekete et al., 2009), Egypt (Elhelaly and Mohamed, 2014) and Sri Lanka (Kuruppu et al., 2015).

Two types of studies have been undertaken, studies (such as Lymer, 1997; Lymer and Tallberg, 1997, Deller et al., 1999) that have tried to describe website disclosure practices without using an ex ante set of criteria to evaluate the quality of reporting. They mainly aimed at detecting kinds of information content disclosed, and this was the main concern rather than assessing technology features or presentation techniques. In other studies, the focus was diverted towards preparing a catalogue of attributes, assessing the quality of presentation in addition to the content information, financial and non-financial (e.g. Heldin, 1999; Lymer et al., 1999; FASB, 2000; Khan and Ismail, 2011; and Oyelere and Kuruppu, 2012). Nevertheless, Lybaert (2000) extended the checklist by including some timeliness and user support items.

In terms of the research context, the majority of the studies have been either conducted solely in a single country or comparatively in several countries; this is in both developed and developing countries. It is, however, noticeable that most comparative studies, except by Baard and Nel in 2011 and Pervan and Bartulovic in 2012, were undertaken in developed countries (such as Lymer and Tallberg, 1997, UK and Finland; Deller et al., 1999, USA, UK and Germany; Smith and Pierce, 2005, Europe; Hanafi, 2016, USA, UK and Singapore and Ponte et al., 2000, Europe). Nonetheless, Lymer et al., (1999) implemented a survey among 22 countries, indicating that, compared to developing countries, firms in developed countries have a more online presence as well as being more advanced in their web financial communications.

The intention to describe internet financial reporting practices started early in developed countries, for example, Lymer, (1997), in the UK, and has stopped since 2010, e.g. study by Ali, 2010 in New Zealand, while in developing countries, this topic, however, is still dynamic (for instance: studies of Homayoun and Rahman, 2010, Malaysia; Lamani and Cepani, 2011, Albania; Agyei-Mensah, 2012, Ghana; Umoren and Asogwa, 2013, Nigeria; Elhelaly and Mohamed, 2014, Egypt; Kuruppu et al., 2015, Sri Lanka; Bhatia and Kaur, 2016, India; and Qasim and Al Barghouthi, 2017, UAE).

In describing online disclosure practices, a method of disclosure index has been employed. The number of items included and dimensions covered widely diverge among studies. For example, the checklist of Marston (2003) and Lymer et al. (1999) contains 10 and 117 elements of disclosure respectively, while the FASB's (2000) checklist entails 325 attributes of website and disclosure. In addition, dimensions covered by these checklists largely vary in terms of number, nature of classification, cross listing of items as well as miss listing of items. For instance, some researchers (such as Ettredge et al., 2002; Bollen et al., 2006; and Alhtaybat, 2010) put all items in one list, while others (like Lymer et al., 1999; Allam and Lymer, 2003 and Khan and Ismail, 2011) divided it into two aspects: content and

presentation. Other checklists like those of Pirchegger and Wagenhofer (1999) and Laebart (2002) added dimensions of timeliness and user support criteria to their indices. Other limits their search to a specific dimension such as timeliness of disclosure (e.g. Abdelsalam et al., 2007). Differences among disclosure indices relating to items contained, dimensions addressed and classification will constrain the ability to make valid comparisons among these studies. Further, studies used a well structured disclosure index -either weighted or unweighted-to examine all the disclosed information on a company's website and classify the disclosed items into various groups to ease the task of searching for them. Most descriptive studies employed un-weighted disclosure indices and used dichotomous approach.

The study suffers from some limitations. First, the literature review was conducted by searching seven on-line databases. While this approach has the advantage of providing comprehensive coverage of business related empirical articles, there may be publishing outlets not contained in them and thus the research is limited in scope. Second, the study makes no attempt to review country-wise research on use of internet in financial reporting. Finally, review studies could be criticized generally because it involves an inherent bias related to the inclusion/exclusion criteria, methods selected in synthesizing the literature and the problem of combining “apples and oranges” (Hunt, 1997, p.61 cited in Rosenthal and Dimatteo, 2001, p.68). This problem refers to mixing studies with different sampling units, settings, treatments and measurement of variable. However, despite this critique, Rosenthal and Dimatteo (2001) argue that mixing different studies in review analysis is not a problem and it will support the generalization of the results.

The results of this study will help in informing future research. This study provides a relevant base for future research through discussing previous literature related to internet financial reporting. Future research has to consider the construction of disclosure index and measurement proxies for web disclosure score. In addition, the findings of this research support the efforts of regulatory agencies such as FASB, ICAI and IASB to better understand the internet financial reporting practices. Finally, more research is essential to understand internet reporting practices in non-financial companies.



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