Referring integrated annual report readers to corporate websites

George Nel
Stellenbosch University

ABSTRACT

This study examines the link between the use of websites and annual reports as communication channels. The first objective was to assess the extent to which companies rely on their websites. For the purpose of this study, 'reliance' was operationalised as the extent to which companies rely on their websites as a supplementary information source to their annual report (measured as the number of times annual report readers are referred to the company's website for additional information). It appears that companies mainly refer readers of their annual report to their websites for further information about corporate governance-related issues. The second objective was to ascertain whether an association exists between companies' reliance on their website as a supplementary source of information and investors' ability to find such 'promised' information (presentation-related attributes). A positive correlation was found between companies' reliance and a website score consisting of eight presentation-related attributes. The third objective was to explore the determinants of companies' reliance. It seemed that larger companies, companies with higher debt levels and companies from specific industries were more reliant on their websites as a supplementary source of information. The results emphasise how important it is for companies and regulators to understand the drivers and benefits of staying abreast of technological developments – more specifically, for companies in developing their communication strategies, and for regulators in updating reporting standards and regulations.

INTRODUCTION

Investors require information to evaluate share investments. Factors such as globalisation, the increased availability of information (e.g., the internet), the increased complexity of business transactions and, more recently, an increase in corporate collapses and scandals, have spurred investors' demand for more information. This increased demand, coupled with the elaboration of accounting standards to improve the reliability of the annual report, and a maturing Generation Z, support arguments by the International Integrated Reporting Council (IIRC) that some of the information in integrated annual reports should "move to an online environment" in order to "declutter" the integrated report (IIRC, 2011). In the same way, the International Accounting Standards Board (IASB) specifically states in its conceptual framework that investors will have to consult other sources in addition to annual reports, as these reports do not and are not able to provide all the information that potential investors need (IASB, 2010). Best practice corporate website guidelines, as published by the Investor Relations Society (IRS, 2013), further urge companies to promote their corporate website in all relevant investor material (e.g., the annual report).

This study explored companies' reliance on their corporate websites to supplement the annual report. For the purpose of the study, 'reliance' was operationalised as the extent to which companies rely on their websites as a supplementary information source to their annual report (measured as the number of times annual report readers are referred to the company's website for additional information). The term 'annual report' is defined to include the integrated annual report (IAR) and annual financial statements[1]. Further, it is important to note that only PDF annual reports were examined.

Given the advantages of the corporate website as a communication channel, it is not surprising that both companies and investors are actively engaged in the use of corporate websites to communicate information (as illustrated in the three paragraphs that follow).

www.manaraa.com

Using data from the Canadian listed companies Trabelsi, Labelle and Dumontier (2008), we found that approximately 50% of companies communicated information via their corporate websites that was not available in their annual reports. Striukova, Unerman and Guthrie (2008) documented findings that showed that companies deliberately used different information sources in order to communicate different types of information.

According to Jones (2009), the rapid increase in the availability of information channels has driven users closer to sources directly controlled by the company, such as corporate websites. Using Johannesburg Stock Exchange (JSE) data, Nel (2016) found that, out of 326 JSE-listed companies, only five did not have a working website at the time.

A report by the Securities and Exchange Commission (SEC, 2008) found that 55% of retail investors accessed investment information via the internet. Regarding institutional investors, Wade and Forbes (2000) reported that up to 75% of investors reviewed corporate websites before meeting with the management of a company. Research by Hodge and Pronk (2006) provided evidence that corporate websites had also become an important source of information for information intermediaries such as financial analysts. Using respondents from South Africa, a national online survey conducted in 2012 showed that 217 out of 352 respondents would prefer to obtain their investment information from the internet in future (Rensburg and Botha, 2014).

As the purpose of the corporate website is much wider than that of the annual report, the two communication channels should not be viewed as mutually exclusive. One reason many companies refer users to corporate websites is to keep the annual report concise, given the growing information needs of various stakeholders. Other possible reasons may be to exploit the advantages offered by corporate websites (e.g. the ability to provide timely information, the use of presentation technologies and costs) and stakeholder preferences.

As a company's decision to supplement their annual report with reference(s) to their corporate website (which implies the maintenance of a corporate website) is voluntary in nature, the technology acceptance model (TAM) (Davis, Bagozzi and Warshaw, 1989) may offer some insight into companies' behaviour. The central argument of the model is that two beliefs underlie companies' and investors' use of corporate websites as communication channel: perceived usefulness and perceived ease of use.

With regard to usefulness, a well-developed corporate website will theoretically increase company visibility (Merton, 1987), which in turn will increase liquidity (Agarwal, Taffler, Bellotti and Nash, 2016). Increased liquidity is linked to the cost of equity through information asymmetry (Botosan, 1997). Empirical evidence on the ability of an informative investor relations website to decrease information asymmetry and the cost of equity is provided by Nel, Smit and Brümmer (2018); Da Silva Rodrigues and Galdi (2017); Gajewski and Li (2015); Orens, Aerts and Cormier (2010); and Froidevaux (2004), among others.

Although the use of the corporate website as communication channel offers specific advantages to both companies (e.g., cost-effectiveness) and investors (e.g., potential dynamic and interactive presentation technologies), it is important to emphasise that information communicated via a website may not necessarily be useful to investors, given the potential disadvantages of the corporate website as communication channel. For example, in a study in which institutional investors were asked why they did not use corporate websites, the following were provided as reasons: distrust of technology, lack of confidence in their own technical ability, preference for existing information suppliers, and negative perceptions of site navigation, the quality of the information, and the timeliness of the available information (Wade and Forbes, 2000).

Prior studies often distinguished between content and presentation, with 'content' referring to information per se (e.g., annual report, history and strategy) and 'presentation' referring to the use of specific presentation technologies (e.g., hyperlinks) to enhance the information. Marston and Polei (2004) claim that, although users may mainly be interested in the content, they also need to find this information as quickly and easily as possible (i.e., presentation).

PROBLEM INVESTIGATED

South Africa was the first country to mandate JSE-listed companies to compile an IAR (in 2010). While South Africa has recently been ranked number one by the World Economic Forum for the strength of its auditing and reporting standards for the seventh consecutive year (IRBA, 2017), the link between the annual report and the corporate website remains unexplored. Although we have some knowledge of the quality of the corporate website as a communication channel including its use in supplementing the annual report (Esterhuyse and Wingard, 2016; Nel, 2016; Trabelsi *et al.,* 2008), the extent to which companies use their corporate websites to supplement their annual report has not been adequately investigated.

PURPOSE AND OBJECTIVES OF THE STUDY

The primary purpose of the study was to explore the symbioses between the annual report and the corporate website as physically distinct, but potentially interdependent, communication channels. The objectives were threefold. The first was to explore the extent to which companies rely on their corporate websites to supplement the information on their annual reports. The second was to ascertain whether an association (i.e., a correlation) exists between the extent of reliance on websites and the

www.manaraa.com

use of presentation-related technologies to benefit from the advantages offered by websites as communication channels (to enable users to find the 'promised' information as quickly and easily as possible). The third objective was to explore the determinants of companies' reliance on websites. To conclude, recommendations were made on how companies might improve the use of presentation technologies to unlock the full potential of their corporate websites as communication channels.

COMMUNICATING WITH STAKEHOLDERS

The 1973 Companies Act (RSA, 1973) stipulated that companies should send a hard copy of their annual report to all shareholders, and that companies were only allowed to substitute hard copy reports with electronic reports if the shareholder entitled to receive the annual report agreed thereto in writing, and if the company were so authorised by its articles. According to Section 31 of the 2008 Companies Act (RSA, 2008), which replaced the 1973 Companies Act on 1 May 2011, a company has to issue a notice to each shareholder when the annual report become available. This notice should set out the steps for shareholders to receive a copy of the annual report, which may be in the form of an electronic or a hard copy. Shareholders are only entitled to a hard copy if they specifically request one from the company.

Annual reports and websites as communication channels

For the purpose of this study, 'annual report' refers to both the traditional hard copy version of an annual report and the PDF version of an annual report, which is principally an electronic copy of the traditional hard copy. Compared with the annual report, the corporate website as communication channel has a number of potential advantages for both investors and companies. Research offers, among others, the following as advantages: content tailored to user needs, use of multimedia to generate dynamic content, two-way interaction, increased information accessibility, real-time access, cost-effectiveness, and mass communication (Cormier, Ledoux and Magnan, 2009; Smith and Pierce, 2005; Lodhia, Allam and Lymer, 2004).

Although annual report content is mandated by various compliance standards, acts and codes, the use of corporate websites as a communication channel is voluntary in nature. One consequence of this voluntary nature is a cross-sectional variation among company websites. As a result, investors often do not know what to expect when visiting a corporate website as information source, which thwarts their ability to access and compare information across companies (Chatterjee and Hawkes, 2008). Given the conflicting incentives (e.g. self-serving voluntary disclosures initiated by management) that companies may have to voluntarily disclose information (Healy and Palepu, 2001), the credibility of the information disclosed on corporate websites can be questioned.

Assuming companies' widespread use of corporate websites, users may have the reasonable expectation of timeliness and completeness. Although the International Integrated Reporting Framework offers guidance to JSE-listed companies on how to prepare an integrated report, it is principles-based (IIRC, 2013); and while readers have some expectations about the information, it is inevitable that companies' content will vary. Although the annual report will therefore not include a predetermined set of information, there is at least some guidance – in contrast with corporate websites, where no guidance exists for JSE-listed companies. It must be noted, however, that annual reports are always dated, while information on corporate websites is not always dated (Nel, 2016).

Annual reports are further primarily sequential in nature (i.e., arranged in a linear fashion) and, for example, have a table of contents with topics and page numbers, compared with the corporate website, which is non-sequential with potentially hundreds or thousands of links (Debreceny, Gray and Mock, 2001).

Specific sections of annual reports are audited by registered auditors, with an audit report referring to the exact information that has been audited. The practice of hyperlinking audited information in the PDF version of the IAR to unaudited information on corporate websites may lead users to blend audited with unaudited information by blurring the boundaries between them (Debreceny *et al.*, 2001; Barac, 2004). Without the necessary disclaimers or use of clear boundaries on websites, companies may face potential legal action (Khadaroo, 2005; Fitzsimons and Shoaf, 2000).

Given the cost-effectiveness of providing information on corporate websites, the various alternative formats in which information can be presented, and the conflicting needs and sophistication of users of corporate websites (e.g., from naïve smaller retail investors to sophisticated institutional investors and investment analysts), information overload could compromise the usefulness of corporate websites (Lybaert, 2002; Debreceny *et al.*, 2001).

Given the inherent nature of the internet, coupled with its voluntary nature, it is therefore assumed that not all companies will make full use of the potential advantages of corporate websites as a communication channel, and that many of these potential advantages may in fact decrease its usability if it is not used effectively.

Theories explaining voluntary disclosure

The literature usually relies on one or a combination of the following theories in explaining variations in voluntary disclosure levels among companies: agency theory, information asymmetry problem, signalling theory and mimetic isomorphism.

www.manaraa.com

The agency problem arises as a result of the separation and conflicting incentives of the owners (principals) and management (agents) of a company. According to Craven and Marston (1999), agency theory predicts that voluntary disclosure levels are influenced by management's expectations of their effect on the share price.

A further consequence of the separation of ownership and control is the information asymmetry problem, whereby management, by default, has access to all available information, while investors, by default, do not. Companies may therefore increase voluntary disclosure levels in an attempt to remedy this information problem (Healy and Palepu, 2001).

Signalling theory suggests that companies will voluntarily disclose information to distinguish themselves from their peers (Xiao, Yang and Chow, 2004). Conelly, Certo, Ireland and Reutzel (2011) contend that signalling theory entails the deliberate communication of positive information to investors. It can also be argued that the optimal use of corporate websites may itself be a signal to investors that the company is innovative and progressive rather than old-fashioned and conservative (Craven and Marston, 1999).

DiMaggio and Powell (1983) describe 'mimetic isomorphism' as the situation in which companies base their behaviour on that of their peers. Lybaert (2002) refers to this as 'the follower's effect', whereby companies base their adoption and use of corporate websites on the behaviour of their industry peers.

Larger companies are expected to disclose more information than smaller companies for a number of reasons – for example, economies of scale, public visibility, and the complexity and size of operations (Nel, Smit and Brümmer, 2017). Dual-listed companies are further expected to disclose more information than companies that are listed on only one stock exchange, given the additional listing requirements (Cooke, 1992) and demands of a more dispersed international shareholder base (Bollen, Hassink & Bozic, 2006). Related to listing status, Nel (2016) reported a positive association between listing age and the use of the corporate website as a communication channel.

Agency theory is often used to hypothesise a positive association between voluntary disclosure and leverage, based on the argument that an increase in the debt-equity ratio creates agency costs (Debreceny, Gray and Rahman, 2002; Nel, 2016). Both agency theory and signalling theory confirm the expectation of increased voluntary disclosure levels for companies that are being audited by one of the big four audit companies (Xiao *et al*., 2004). Marston and Polei (2004) argue that agency theory dictates that, in a dispersed ownership shareholder structure, a company will disclose more information to reduce agency costs and information asymmetry.

RESEARCH METHODOLOGY

This study, situated within the positivistic paradigm, focused on what could be observed and measured. The research approach was quantitative and non-experimental, using cross-sectional secondary data measured from corporate websites and annual reports, as well as cross-sectional secondary data obtained from the JSE and the IRESS database. More specifically, the researcher relied on a content analysis of annual reports and corporate websites, as well as bi- and multivariate regression analysis to address the research objectives.

Study sample

To execute the study, a sample of 25% of the JSE-listed companies was selected from a defined study population of 315 companies using stratified (industry) random sampling with proportional allocation. Cheng, Courtenay and Krishnamurti (2006) and Nel (2016) used similar sample sizes of 23% and 25% respectively. The population was defined as all companies listed on the JSE then that had not been suspended, had traded since inception date, had published 2013 integrated annual reports, and had a dedicated working website. From the 382 JSE-listed companies, 67 companies were therefore removed to produce a defined population of 315. Fractions for each industry were rounded up, resulting in a final sample size of 85 companies, or 26.9% of the defined population.

The extent to which companies rely on their corporate website to supplement their annual report (Objective 1)

Companies may use their corporate website as a communication channel to supplement their annual report. The result thereof is that companies may refer readers of the annual report to their corporate website for additional information – for example, "For more information about the qualifications of directors, see www". To address this objective, the number of referrals made to the company's website was used as proxy for the extent of companies' reliance on their websites.

PDF annual reports were therefore scrutinised to calculate the number of times that a report referred to the company's corporate website for further information. PDF annual reports were available on the corporate websites of 82 of the 85 companies in the study sample; PDF reports for the remaining three companies were obtained from IRESS and the JSE. Although the population was defined to include only companies that had published a 2013 annual report, the latest available annual report for each company was analysed at the time the content analysis was conducted, i.e., from March to September 2015.

Acknowledging the variety of names used in practice to refer to websites, all of the following terms were used to search for such referrals: 'online', 'website', 'corporate website', 'worldwide web', 'internet', 'www' and 'http'.

www.manaraa.com

Some companies used icons – usually defined at the beginning of the annual report – to refer to their corporate websites; such icons were therefore also counted. It should be noted that the study made no attempt to verify whether the information was actually disclosed on the website. This was also discussed as a limitation in the conclusion section.

The association between companies' reliance on their website and the ability of investors to find such information (Objective 2)

It is possible to distinguish between content and presentation when measuring the use of corporate websites as a communication channel. It can be argued that presentation-related attributes would improve the ability of investors to find information on the corporate website as 'promised' in the annual report.

To measure companies' use of these presentation attributes, a website score was calculated for each company by adding the individual scores – 1 if present and 0 if absent – except for two variables (the user-friendliness of the home page, and the e-mail address to contact the company) as discussed below (see accessibility). Eight attributes were measured, resulting in a maximum possible score of eight. The attributes measured (i.e., the measurement instrument) is based on a review of best practices as published by the Investor Relations Society (IRS, 2013) and a literature review of existing measurement instruments. The content analyses of corporate websites (to measure the attributes) were conducted from March to September 2015.

Presentation-related attributes could be further categorised into three groups: navigation, accessibility, and timeliness (Marston and Polei, 2004; Xiao *et al*., 2004). Given the small number of attributes measured, and the argument that navigation tools could also be viewed as presentation attributes that would improve the accessibility of information, the attributes measured in this study were organised in two categories only: accessibility and timeliness. The attributes measured are listed in Table 1, and briefly discussed below per category.

TABLE 1
PRESENTATION-RELATED ATTRIBUTES MEASURED

Accessibility
Search function
Sitemap
Position of website clearly visible
Home page link on all website pages
User friendliness of home page
E-mail (investors) or E-mail (general)
Timeliness
Date last updated (home page)
History section updated within last two years

Accessibility

Given the amount of information on corporate websites, the use of, for example, a search function or sitemap can help users to find information and prevent information overload. To help prevent disorientation, users should always know where they are on the website, and a 'back to the home page' link and/or breadcrumb trail[2] should be clearly visible on all pages. Nielsen (1999) argues that the excessive use of graphics has a negative impact on user experience. Pertaining to the user-friendliness of the home page, all companies were assigned a default score of 1 for a working home page, with 0.5. deducted for each of the following: excessive use of graphics or poor graphic design, inability to scroll down or endless scrolling down required to access information, and a clear lack of effort behind the corporate website. Although research by Baard and Nel (2016) found that companies did not always respond to e-mail queries received from an unknown potential investor, the availability of an e-mail address – or, more specifically, an email-address that clearly accommodates investor-related queries – will without any doubt signal to investors that the company is willing to communicate with them. Investors unable to find the 'promised' information in the annual report may need to email the company. Companies were assigned a score of 1 for providing a dedicated investor e-mail address (e.g., company Z-investors.co.za) and 0.5 if only a general e-mail address (e.g., company Z.co.za) was provided.

Timeliness

An important potential advantage of corporate websites is the provision of timely and therefore regularly updated information to investors. Ettredge, Richardson and Scholz (2001) describe the use of the corporate website as a communication channel as providing individual investors with timely information that, in the past, was only available to an exclusive group of investors (i.e., analysts and institutional investors). For investors to judge the timeliness of information, it should be dated. In some cases, undated information may be misleading or even useless.

Exploring the determinants of companies' reliance (Objective 3)

Although various studies have researched the determinants of companies' use of corporate websites as communication channels (Dolinsek and Lutar-Skerbinjek, 2018; Ahmed, Burton and Dunne, 2017; Nel *et al*., 2017; Mokhtar, 2017; Omran and Ramdhony, 2016), this is the first study to explore the determinants of companies' reliance on their corporate website as a supplemental source of information to their IARs.

Following the literature review on the theories explaining voluntary disclosure, eight independent variables were identified that theoretically could explain variations in companies' reliance (as dependent variable).

www.manaraa.com

Table 2 lists these variables, and provides a brief description of how each variable was calculated, as well as the expected association with the dependent variable, companies' reliance.

TABLE 2
INDEPENDENT VARIABLES: DESCRIPTION AND PREDICTED DIRECTION

Variable	Description	Predicted direction
Independent continuous variables		
Company size	Average daily market capitalisation of all trading days from 1 December 2014 to 30 November 2015	+
Leverage	Ratio between debt and assets (as per latest available IAR)	+
Number of years listed	Number of years listed as on measurement of the website score	+
Director shareholding	The percentage of direct and indirect, beneficial and non-beneficial shareholding of directors (as on 1 December 2014)	-
Free float	Ratio between the total issued shares minus restricted shares and the total issued shares (as on 1 December 2014)	+
Independent categorical variables		
Big four audit	Dummy variable representing 1 if the company is audited by PwC, KPMG, Deloitte & Touche or Ernst & Young (as on 1 December 2014)	+
JSE industry	JSE industry classification (as on 1 December 2014)	+ / -
Dual listing	Dummy variable representing 1 if the company is dually listed on the JSE and any other stock exchange (as on 1 December 2014)	+

TABLE 3
DESCRIPTIVE STATISTICS

Panel A: Continuous variables							
	Average	**Min**	**Quartile**			**Max**	**Standard**
			Q1	**Q2**	**Q3**		
Referrals	9.67	0.00	2.00	5.00	13.00	64.00	10.92
Website score	4.47	1.50	3.50	4.50	5.50	8.00	1,39
Accessibility	4.01	1.50	3.00	4.00	5.00	6.00	1.14
Timeliness	0.46	0.00	0.00	0.00	1.00	2.00	0.60
Market capitalisation (ZAR' 000 000)	49 409.17	38.67	584.88	6 247.90	25 944.84	1 411 045.16	169 730.55
Leverage	0.45	0	0.28	0.40	0.61	1.21	0.25
Number of years listed	22.75	1.78	8.94	17.19	27.58	75.23	17.99
Director shareholding (%)	13.88	0.00	0.10	2.87	23.13	81.79	20.47
Free float (%)	59.70	2.50	36.00	60.00	87.00	100.00	28.63

Panel B: Categorical variables			
	Yes (1)	**No (0)**	**Total**
Dual listing	25	60	85
Big four audit	61	24	85
Basic material industry	17	68	85
Consumer goods industry	7	78	85
Consumer services industry	10	75	85
Financial industry	21	64	85
Healthcare industry	3	82	85
Industrials industry	19	66	85
Oil and gas industry	1	84	85
Technology industry	4	81	85
Telecommunications industry	2	83	85
Utilities industry	1	84	85

www.manaraa.com

Stepwise regression model-building was used to develop a model of the variables that best explain variations in the dependent variable. All independent variables were captured from the IRESS database, with the exception of the audit variable, which was captured from the audit report in the latest annual report; and the JSE industry dual listing, years listed, and free float, which were obtained directly from the JSE**.** Based on an examination of the normality plot and histogram, the natural logarithm of market capitalisation and number of years listed was used to reduce the skewness of the distribution.

RESULTS

This section presents the following: descriptive statistics, an analysis of the type of information for which readers were referred to the website for additional information, a discussion of the use of presentation-related technologies by companies (i.e., website score per company), a correlation analysis, and the results of a stepwise regression. Except for the description statistics, all results are discussed per study objective.

Descriptive statistics

The descriptive statistics are set out in Table 3. Statistics for market capitalisation and number of years listed are presented prior to the natural logarithmic transform (see methodology section), which was used in all further regression analysis in this study.

An average website score of 4.47 was measured, with a minimum score of one and a maximum score of eight. Only one company realised the maximum available score of eight. One possible reason for these low scores is that some attributes measured in this study might be viewed by companies as alternatives (e.g., a sitemap or a search function). A further reason may be the voluntary nature of corporate websites as communication channels. As emphasised by Lybaert (2002), companies trade off the benefits and costs of using their website as communication channels with various internal and external factors that influence their decision about how much to invest in the development of an online presence.

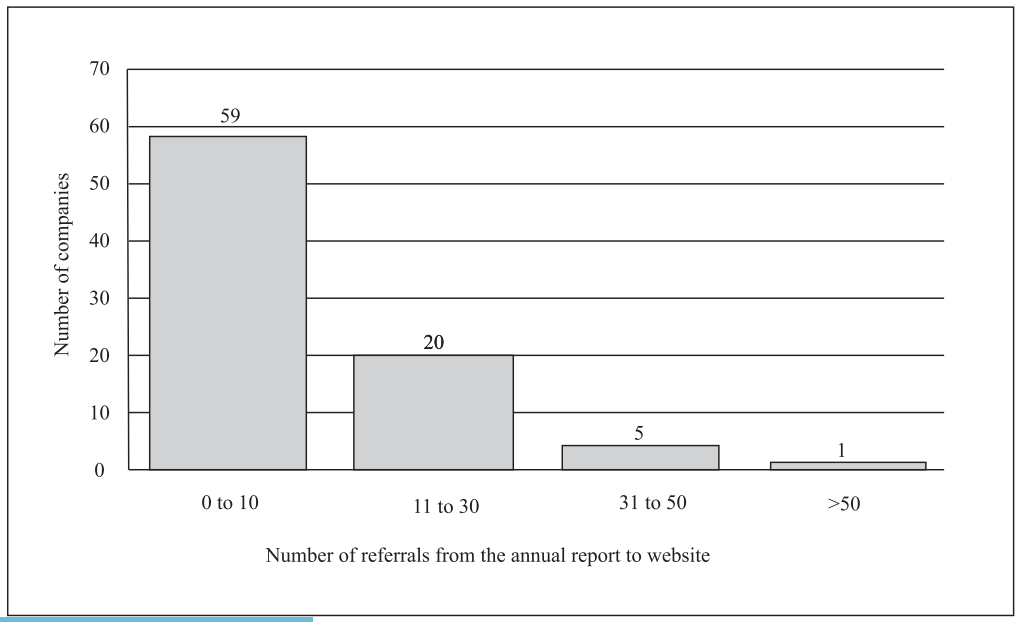
The extent to which companies rely on their corporate website to supplement their integrated annual report (Objective 1)

Figure 1 shows the variation in companies' reliance over the 85 companies.

The minimum and maximum numbers of referrals made are nil and 64 respectively (refer to Table 3), with 59 companies that made 10 or fewer referrals (six companies made no referrals) and 26 that made more than 10 referrals. The annual reports of these 26 companies were further analysed in respect of the type of information for which readers were referred to the website for additional information[3]. As discussed in the methodology section, no attempt was made to verify whether the information was actually disclosed on the website, which was also pointed out as a limitation in the conclusion section.

The referrals made were categorised into four groups: corporate governance, corporate responsibility, financial and non-financial information, and information about the companies' products, services and operations.

FIGURE 1
DISTRIBUTION OF COMPANIES' RELIANCE



www.manaraa.com

FIGURE 2
ANALYSIS OF REFERRALS PER BROAD CATEGORY

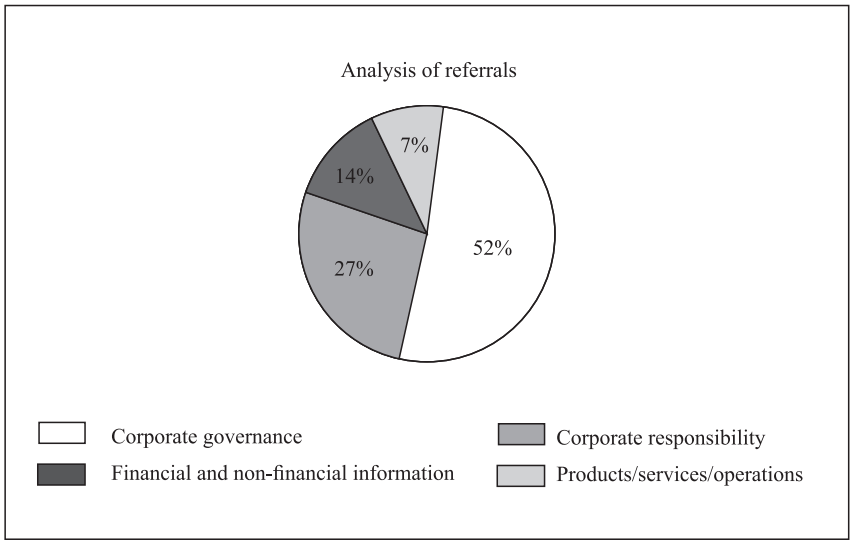


Figure 2 shows an analysis of the 582 referrals that were made in total by the 26 companies. As is evident from Figure 2, the majority of referrals relate to corporate governance (52%), with 27% relating to corporate responsibility, and only 14% and 7% to financial and non-financial information and to products, services and operations respectively.

To aid further understanding of managerial thinking, the four categories in Figure 2 were subdivided into 13 categories. Table 4 shows this breakdown (each as percentage of the total of 582 referrals made by the 26 companies).

TABLE 4
ANALYSIS OF REFERRALS PER DETAILED CATEGORY

Corporate governance	**52%**
Strategy and risk	5%
Stakeholder relationships	10%
Compliance	9%
Directors / ethics	14%
Board committees	14%
Corporate responsibility	**27%**
Sustainability policy and reports	10%
Environment	6%
Employees, health and safety	6%
Social investment	5%
Financial & non-financial	**14%**
Financial statements	9%
Additional financial information	3%
Additional non-financial information	2%
Products, services and operations	**7%**

It appears that companies mainly refer readers of their annual reports to their corporate websites for further information about their directors/ethics (e.g., remuneration, biographies and code of conduct), board committees (e.g., terms of reference and board committee reports), compliance (e.g., King code and listing requirements), stakeholder relationships, sustainability policy and reports, and financial statements. Few companies, on the other hand, refer readers to their websites for further information about their products and services, strategy and risk, additional non-financial or financial information, environmental impact, employees, health and safety or social investment.

The association between companies' reliance on their website and the ability of investors to find such information (Objective 2)

The results from the measurement of the eight presentation-related attributes in calculating a website score per company are now discussed per category (as listed in Table 1).

Accessibility

The search function is the most popular navigation tool used, followed by the sitemap function. Almost two-thirds (65% of companies) made a search function available. Although 45 (53%) companies had a sitemap, sitemaps for nine companies were not fully usable (e.g., they were incomplete, there were inconsistencies between the sitemap and the corporate website structure, and the sitemaps focused only on e-commerce that offered products and services).

www.manaraa.com

To help prevent disorientation, users should always know where they are on the website; and a 'back to the home page' link and/or breadcrumb trail should be clearly visible on all pages. Although both these functions were available in the case of the majority of company websites, 35% of companies used neither breadcrumb trails nor navigation panels[4] to help users orient themselves on web pages, and 14% of the companies did not have 'back to home page' links on all web pages.

Excessive use of graphics, without a text-only option, may disadvantage users with visual and hearing impairments. A total of 50 companies used either excessive graphics on their home page or excessive scrolling down was necessary to see all information and links on the home page, resulting in an average score of 78% for the user-friendliness of home pages.

Although the majority of companies (71%) provided a company e-mail address to enable users to contact the company (e.g., to request further information), only 32% provided dedicated separate investor contact details to signal a clear intention that the company is willing to communicate with potential and existing investors. One possible reason for this is that companies simply may not have a dedicated investor relations officer. For example, according to a survey of the investor relations function of United Kingdom-listed companies, only 20% had a dedicated investor relations officer (Marston, 1996).

Timeliness

For investors to assess the timeliness of information, it should be dated (e.g., 'this is the number of shares issued as on 1 January 2019'). In some cases, undated information may be misleading or even useless. Only 24 (28%) companies clearly dated information (e.g., 'last updated on …') such as shareholder and dividend information and the market capitalisation.

In total, 43 (51%) companies provided a dedicated company history section on their corporate websites. Important information that companies can communicate via this section includes date listed, name changes, important acquisitions and disposals, and geographical expansions of the company. Only 15 companies that provided a history had updated their company history sections within the last two years. An updated history was therefore available for only 18% of the companies surveyed.

From the above discussion it is clear that a number of corporate websites are to some extent neglected, with few companies making optimal use of available presentation-related attributes. As discussed, two scores were calculated for each company: total number of referrals (i.e., companies' reliance) and a website score (use of presentation-related technologies). Table 5 shows the correlation coefficients between the number of referrals and the website score.

TABLE 5
CORRELATION MATRIX: NUMBER OF REFERRALS AND WEBSITE SCORE

Website score	Number of referrals
Total score	0.28***
Accessibility score	0.27**
Timeliness score	0.13

***significant at the 1% level; **significant at the 5% level

Table 5 also shows that companies that rely more on their corporate websites as supplemental communication channels (i.e., number of referrals or companies' reliance) also have a higher website score. However, this association appears to be driven mainly by the accessibility-related attributes, as no significant correlation was found between timeliness and the number of referrals.

The relationship between companies' reliance and the website score is ambiguous, as one could argue either that companies that rely more on their websites to supplement the annual report will be incentivised to optimise their websites to ensure a positive user experience or, on the other hand, that companies with quality websites will be in a better position to use their websites to supplement the annual report. As the causation (i.e., the cause and effect) is not clear, this study merely examined the possible association or correlation between the two variables. For further univariate analysis, refer to Table 6 in the next section.

Exploring the determinants of companies' reliance (Objective 3)

Table 6 depicts the average number of referrals from the annual report to the corporate website (companies' reliance) and the average website score, categorised into groups based on the independent variables listed in Table 2. The median was used to create groups (e.g., median market capitalisation to create two categories, large and small companies), except for JSE industry, which is based on JSE membership.

T-tests were conducted to determine whether significant differences exist between the number of referrals and the website score for each of the company groups (as listed in Table 6): company size, website quality, dual listing status, audit status, leverage, number of years listed, directors' shareholding and free float. An ANOVA was conducted to determine whether significant differences exist between industries in respect of the number of referrals and website scores. The results of the t-tests and ANOVA conducted are indicated in Table 6.

www.manaraa.com

TABLE 6
A COMPARISON OF THE NUMBER OF REFERRALS AND WEBSITE SCORES

	Number of companies	Average number of referrals	Average website score
Sample average	85	9.67	4.47
Large companies	43	13.49***	4.94***
Smaller companies	42	5.76***	3.99***
Superior website quality	47	11.38*	5.52***
Inferior website quality	38	7.55*	3.17***
Dual-listed companies	25	13.20	4.94*
JSE-listed only companies	60	8.20	4.28*
Big four audit	61	11.74***	4.75***
Not big four audit	24	4.42***	3.77***
Low leverage	42	6.93**	4.46
High leverage	43	12.35**	4.48
Shorter listing	41	6.76*	4.28
Longer listing	44	12.39*	4.65
Small directors' shareholding	42	10.76*	4.67
Large directors' shareholding	43	8.60*	4.28
Small free float	41	7.98**	4.40
Large free float	44	11.25**	4.53
JSE Industry – Basic materials	17	11.65	4.65
JSE Industry – Consumer goods	7	11.86	4.29
JSE Industry – Consumer services	10	8.30	4.30
JSE Industry – Financials	21	8.38	4.40
JSE Industry – Healthcare	3	9.00	4.17
JSE Industry – Industrials	19	11.58	4.37
JSE Industry – Oil and gas	1	2.00	6.00
JSE Industry - Technology	4	4.00	5.00
JSE Industry – Telecommunications	2	7.50	5.25
JSE Industry – Utilities	1	2.00	3.5

***significant at the 1% level; **significant at the 5% level; *significant at the 10% level (all other results reported in Table 6 were found to be not significant)

From Table 6 and the results of the t-tests and ANOVA, the following is evident:

- Larger companies, companies that are audited by a big four audit company, companies with higher leverage, and companies with a higher free float percentage appear to refer more (significant at the 5% or better level) to their corporate websites. Larger companies and companies that are audited by a big four audit company also have higher website scores (significant at the 1% or better level) than their counterparts.

- Dual-listed companies, longer-listed JSE-listed companies, companies with a smaller percentage director shareholding, and companies with a superior website quality, on the other hand, do not appear to refer more (all not significant, or merely at a 10% or better level) to their corporate websites than do their counterparts.

- Although some industries appear to rely more on their corporate websites for additional information, or have websites that are superior to those of others, the results of the ANOVA (Kruskal-Wallis) found no significant difference between industries. It is acknowledged that the power of the statistical tests may be restricted, given the small number of companies in some industries.

www.manaraa.com

Table 7 presents the stepwise regression results from using companies' reliance (i.e., total referrals) as the dependent variable, and the variables listed in Table 2 as independent variables.

TABLE 7
MULTIPLE REGRESSION RESULTS: COMPANIES' RELIANCE AS DEPENDENT VARIABLE

	Reliance
β_0	-48.56***
Company size	1.88***
Leverage	14.16***
JSE Industry – Basic materials	7.52***
JSE Industry – Industrials	8.63***
Dual-listed	4.48*
Number of years listed	1.99*
F-statistic	10.715
Adjusted R^2	40.862%

***significant at the 1% level; *significant at the 10% level

As depicted in Table 7, company size, leverage, JSE industry membership (basic materials and industrials), dual listing status and the number of years listed are factors that explain the level of companies' reliance on their corporate websites to supplement the annual report[5]. Therefore, the following independent variables did not remain significant in the final model from the stepwise regression: director shareholding, free float and big four audit. All coefficients were as expected. A minimum tolerance value of 0.70 confirmed the absence of multi-collinearity.

Given the novelty of this study, the best available comparison is previous research that explored the determinants of the use of corporate websites as investor communication channels. Using data from JSE-listed companies, Nel *et al*. (2017) found similar results. In their model, company size, leverage, big four audit, industry membership, free float and dual listing status remained statistically significant independent variables in explaining variations in the use of corporate websites as a communication channel.

Using data from companies not listed on the JSE, the following recent studies, entailing the use of websites as an investor communication channel, reported similar results (significant variables in brackets): Omran and Ramdhony (2016) (company size, board size and liquidity); Pozniak, Bellanca, and Vullo (2016) (company size, industry and performance); Ahmed *et al.* (2017) (company size, listing status, industry and profitability); and Dolinsek and Lutar-Skerbinjek (2018) (industry and ownership). Following the results reported in Tables 5, 6 and 7 and the previous research discussed in the above two paragraphs, it appears that specific company characteristics (e.g., company size and industry membership) are determinants of both the number of referrals from IARs to corporate websites and the use of the website as independent investor communication channel. This conclusion suggests that companies that rely more on their corporate websites as a supplemental communication channel also attempt to excel in the use of the website as a communication channel, both in terms of content communicated and the accessibility (easy to find) of such information.

MANAGERIAL IMPLICATIONS

Without the proper use of presentation technologies, it may be so inconvenient, costly or time-consuming for investors to access information that they will either stop using a website as an information source, or adversely adjust their trading behaviour and valuation of the company due to their inability to find the required and/or annual report-promised information.

Companies can significantly improve the accessibility of information by merely providing a search function or sitemap. Further, to avoid users becoming lost on websites (i.e., becoming disoriented), users should be given an easy way to know where they are on the website (e.g., through the use of a breadcrumb trail or navigation panel), and a 'back to the home page' link should be clearly visible on all pages. Companies can make it easier for investors to contact them or to request information by providing a dedicated investor relations contact e-mail address and, where possible, the name of the person who can be contacted and his or her job title.

Corporate websites should also be accessible to users with specific user impairments for a number of reasons: it is ethical, it improves website traffic, and it prevents discrimination. Some basic steps that companies could follow to improve accessibility for these users are to refrain from the excessive use of graphics without a text-only option, to make use of alternative forms of content (e.g., transcripts and podcasts), to introduce screen readers, and to offer the option of adjusting font size.

To improve the usability of information, all documents must be dated, with the 'date last updated' provided throughout the corporate website. As a minimum, companies must ensure that all information subject to regular change (e.g., market capitalisation) is continuously updated, and that only the latest documents are published – or are clearly labelled as archived if they are not the latest.

CONCLUSION

The results of this study show how a sample of JSE-listed companies purposefully refer readers of their integrated annual reports to their corporate websites to supplement their integrated annual reports.

www.manaraa.com

Given the voluntary nature of the use of the corporate website as an investor communication channel, the results of this study contribute to the body of voluntary disclosure studies by using developing-country data and examining the link between the integrated annual report (as a mandatory communication channel) and the corporate website (as a voluntary communication channel).

The FASB (2000) distinguished between three distinct company goals for electronic business[6] reporting: the complementary group, the substitute group, and the innovative group. The complementary group publishes only standard financial reports (e.g., the annual report), press releases and limited investor information (e.g., the share price). The substitute group publishes the same information as the complementary group, with some additional information such as share price and dividend history, and they proactively encourage the use of corporate websites as a substitute for the distribution of printed material. The innovative group, on the other hand, publishes the widest variety of information, which may include conference calls and management presentations, proactively maximising the company's web capabilities to expand its audience, encourage more usage and provide information in alternative formats. The results of this study therefore provide some evidence that JSE companies can currently be categorised as somewhere between the substitute group and the innovative group.

Although the advantages of the corporate website as a communication channel are common knowledge today, not all companies make full use of them; and thus, for some, these exist only as opportunities. Many of these potential advantages (e.g., timeliness and accessibility) may decrease the usability of corporate websites if they are not effectively implemented. Management (directors) are ultimately responsible for the maintenance and integrity of the corporate website as a communication channel. The results therefore emphasise the importance to companies and regulators of understanding the drivers and benefits of staying abreast of technological developments – more specifically, for companies in developing communication strategies, and for regulators in updating standards and regulations.

The limitations of this study, which all warrant future research, are as follows: Firstly, no attempt was made to evaluate the completeness and timeliness of integrated annual report-promised information. Secondly, the time period between the publication of the IARs analysed (see endnote 3 in the results section) and the measurement of the presentation-related attributes assumed that companies in general tend to improve their websites from year to year. Finally, this study relied on only one cross-sectional measurement both of companies' reliance on their websites and of the use of presentation technologies. Future research should consider these limitations by including panel data and examining the completeness and timeliness of annual report-promised information.

REFERENCES

Agarwal, V., Taffler, R.J., Bellotti, X. and Nash, E.A. 2016. Investor relations, information asymmetry and market value. *Accounting and Business Research*, 46(1): 31-50.

Ahmed, A.H., Burton, B.M. and Dunne, T.M. 2017. The determinants of corporate internet reporting in Egypt: An exploratory analysis. *Journal of Accounting in Emerging Economics*, 7(1): 35-60.

Barac, K. 2004. Financial reporting on the internet in South Africa. *Meditari Accountancy Research*, 12(1): 1-20.

Baard, R. and Nel, G.F. 2016. An explanatory study of the use of e-mail investor communication by South African listed companies. *South African Journal of Information Management*, 18(1): 1-9.

Bollen, L., Hassink, H. and Bozic, G. 2006. Measuring and explaining the quality of Internet investor relations activities: A multinational empirical analysis. *International Journal of Accounting Information Systems*, 7(4): 273-298.

Botosan, C.A. 1997. Disclosure level and the cost of equity capital. *The Accounting Review*, 72(3): 323-347.

Chatterjee, B. and Hawkes, L. 2008. Does internet reporting improve the accessibility of financial information in a global world? A comparative study of New Zealand and Indian companies. *Australasian Accounting Business and Finance Journal*, 2(4): 33-56.

Cheng, E.C.M, Courtenay, S.M. and Krishnamurti, C. 2006. The impact of increased voluntary disclosure on market information asymmetry, informed and uninformed trading. *Journal of Contemporary Accounting & Economics*, 2(1): 33-72.

Conelly, B.L., Certo, S.T., Ireland, R.D. and Reutzel, C.R. 2011. Signalling theory: A review and assessment. *Journal of Management*, 37(1): 39-67.

Cooke, T.E. 1992. The impact of size, stock market listing and industry type on disclosure in the annual reports of Japanese listed companies. *Accounting and Business Research*, 22(87): 229-237.

Cormier, D., Ledoux, M. and Magnan, M. 2009. The use of web sites as a disclosure platform for corporate performance. *International Journal of Accounting Information Systems*, 10(1): 1-24.

Craven, B.M. and Marston, C.L. 1999. Financial reporting on the Internet by leading UK companies. *The European Accounting Review*, 8(2): 321-333.

www.manaraa.com

Da Silva Rodrigues, S. and Galdi, F.C. 2017. *Investor relations and information asymmetry.* Paper read at the XXXIX meeting of the Brazilian National Association of Graduate Studies and Research in Administration. Belo Horizonte, Brazil. September 2016.

Davis, F.D., Bagozzi, R.P. and Warshaw, P.R. 1989. User acceptance of computer technology: A comparison of two theoretical models. *Management Science*, 35(8): 982-1003.

DiMaggio, P.J and Powell, W.W. 1983. The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48(2): 147-160.

Debreceny, R., Gray, G.L. and Mock, X. 2001. Financial reporting websites: What users want in terms of form and content. *The International Journal of Digital Accounting Research*, 1(1): 1-23.

Debreceny, R., Gray, G.L. and Rahman, A. 2002. The determinants of Internet financial reporting. *Journal of Accounting and Public Policy*, 21(4): 371-394.

Dolinsek, T. and Lutar-Skerbinjek, A. 2018. Voluntary disclosure of financial information on the internet by large companies in Slovenia. *Kybernetes*, 47(3): 458-473.

Esterhuyse, L. and Wingard, C. 2016. An exploration of the online investor relations (IR) practices of companies listed on the Johannesburg Stock Exchange (JSE). *South African Journal of Economic and Management Sciences*, 19(2): 215-231.

Ettredge, R., Richardson, V.J. and Scholz, S. 2001. The presentation of financial information at corporate web sites. *International Journal of Accounting Information Systems*, 2(3): 149-168.

Fitzsimons, A.P. and Shoaf, V.L. 2000. FASB studies the electronic reporting of business information. *Commercial Lending Review*, 15(4): 65-71.

Froidevaux, E.A. 2004. Investor relations internet disclosure and the cost of equity capital. PhD dissertation. Switzerland: University of Fribourg.

Gajewski, J. and Li, L. 2015. Can internet-based disclosure reduce information asymmetry? *Advances in Accounting, incorporating Advances in International Accounting*, 31(1): 115-124.

Healy, P.M. and Palepu, K.G. 2001. Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature. *Journal of Accounting and Economics*, 31(1-3): 405-440.

Hodge, F. and Pronk, M. 2006. The impact of expertise and investment familiarity on investors' use of online financial report information. *Journal of Accounting, Auditing and Finance*, 21(3): 267-292.

IASB (International Accounting Standards Board). 2010. *The conceptual framework for financial reporting.* London: IFRS Foundation.

IIRC (International Integrated Reporting Council). 2011. Towards integrated reporting: Communicating value in the 21st century. *IIRC* (Online). Available: http://theiirc.org/wp-content/uploads/2011/09/IR-Discussion-Paper-2011_spreads.pdf [Accessed: 7 July 2012]

IIRC (International Integrated Reporting Council). 2013. The International <IR> Framework. *IIRC* (Online). Available: http://integratedreportingsa.org/ircsa/wp-content/uploads/2017/05/13-12-08-The-International-Ir-Framework-2-1.pdf [Accessed: 17 December 2017]

IRS (Investor Relations Society) 2013. Best practice guidelines for websites. *Investor Relations Society* (Online) Available: http://www.irs.org.uk/resources/best-practice-guidelines [Accessed: 11 July 2013].

IRBA (Independent Regulatory Board for Auditors). 2017. Did you know? *IRBA* (Online). Available: www.irba.co.za/about-us/did-you-know [Accessed: 26 September 2017].

Jones, A. 2009. Corporate websites. *Investis* (Online). Available: http://www1.investis.com/~/media/Files/I/Investis-V2/pdf/publications/corporate-websites-july-2009-v2.pdf [Accessed: 22 January 2013].

JSE (Johannesburg Stock Exchange). 2016. *JSE listings requirements.* Service Issue no. 16. Johannesburg: LexisNexis Butterworths. (Online) Available: https://www.jse.co.za/content/JSERulesPoliciesandRegulationItems/JSE%20Listings%Requirements.pdf [Accessed: 6 April 2016].

Khadaroo, M.I. 2005. Business reporting on the internet in Malaysia and Singapore. A comparative study. *Corporate Communications: An International Journal,* 10(1): 58-68.

Lodhia, S.K., Allam, A. and Lymer, A. 2004. Corporate reporting on the internet in Australia: An exploratory study. *Australian Accounting Review*, 14(3): 64-71.

Lybaert, N. 2002. Online financial reporting: An analysis of the Dutch listed firms. *The International Journal of Digital Accounting Research*, 2(4): 195-234.

Marston, C. 1996. The organisation of the investor relations function by large UK quoted companies. *Omega*, 24(4): 477-488.

Marston, C. and Polei, A. 2004. Corporate reporting on the Internet by German companies. *International Journal of Accounting Information Systems,* 5(3): 285-311.

Merton, R.C. 1987. A simple model of capital market equilibrium with incomplete information. *The Journal of Finance*, 42(3): 483-510.

www.manaraa.com

Mokhtar, E.S. 2017. Internet financial reporting determinants: A meta-analytic review. *Journal of Financial Reporting and Accounting*, 15(1): 116-154.

Nel, G.F. 2016. *Internet investor relations, information asymmetry and the cost of capital: Evidence from JSE-listed companies*. PhD dissertation. South Africa: Stellenbosch University.

Nel, G.F., Smit, E. and Brümmer, L. 2017. Determinants of the quality of internet investor relations – a study of companies listed on the JSE. *South African Journal of Business Management*, 48(1): 55-65.

Nel, G.F., Smit, E. and Brümmer, L. 2018. The link between Internet investor relations and information asymmetry. South African *Journal of Economic and Management Sciences*, 21(1): 1-10.

Nielsen, J. 1999. How users read on the web. *Nielsen Norman Group* (Online) Available: https://www.nngroup.com/articles/how-users-read-on-the-web/ [Accessed: 22 June 2016].

Omran, M.A. and Ramdhony, D. 2016. Determinants of internet financial reporting in African markets: The case of Mauritius. *The Journal of Developing Areas*, 50(4): 1-18.

Orens, R., Aerts, W. and Cormier, D. 2010. Web-based non-financial disclosure and cost of finance. *Journal of Business Finance and Accounting*, 37(9): 1057-1093.

Pozniak, L. Bellanca, S., Vullo, F. 2016. Determinants of internet financial communication: Evidence from AIM Italia. *International Advanced Economic Research*, 1(22): 111-112.

Rensburg, R. and Botha, E. 2014. Is integrated reporting the silver bullet of financial communication? A stakeholder perspective from South Africa. *Public Relations Review*, 40(2): 144-152.

RSA (Republic of South Africa). 1973. *Companies Amendment Act*, no. 61 of 1973. Pretoria: Government Printer.

RSA (Republic of South Africa). 2008. *Companies Act*, no. 71 of 2008. Pretoria: Government Printer.

SEC (Securities and Exchange Commission). 2008. *Mandatory disclosure documents telephone survey* (Online) Available: http://www.sec.gov/pdf/disclosure docs.pdf [Accessed: 22 May 2019].

Smith, B. and Pierce, A. 2005. An investigation of the integrity of internet financial reporting. *The International Journal of Digital Accounting Research*, 5(9): 47-78.

Striukova, L., Unerman, J. and Guthrie, J. 2008. Corporate reporting of intellectual capital: Evidence from UK companies. *British Accounting Review*, 40(4): 297-313.

Trabelsi, S., Labelle, R. and Dumontier, P. 2008. Incremental voluntary disclosure on corporate websites: Determinants and consequences. *Journal of Contemporary Accounting and Economics*, 4(2): 120-155.

Wade, E. and Forbes, J. 2000. Investor relations websites: Expectations and reality. *Makinson-Cowell* (Online) Available: http://www.makinson-cowell.co.uk/~/media/Files/M/Makinson-Cowell/publications/insights/2000/2000-01-01/2000-01-01.pdf?ItemId=4049bd66-26d2-4810-83f9-635669465f46 [Accessed: 22 January 2013].

Xiao, J.Z., Yang, H. and Chow, C.W. 2004. The determinants and characteristics of voluntary Internet-based disclosures by listed Chinese companies. *Journal of Accounting and Public Policy*, 23(3): 191-225.

Endnotes

[1] JSE-listed companies can choose to publish only an IAR that includes detailed annual financial statements or to publish an IAR with summarised financial statements and a separate set of detailed annual financial statements.

[2] Breadcrumb trails track and display pages in the order in which pages were viewed by a visitor; for example, Home page > About us > Board of directors > Executive directors > John Doe.

[3] The financial year-end (date of annual report) of these 26 companies was as follows (number of applicable companies in brackets): 31 March 2013 (1); 28 February 2014 (1); 31 March 2014 (1); 30 June 2014 (10); 31 August 2014 (2); 31 December 2014 (9); 28 February 2015 (1); and 31 March 2015 (1). JSE listing requirements (JSE, 2016) require companies to distribute annual reports to their shareholders within three months of their financial year-end.

[4] Hyperlinked menu of sub-links that appears on either the left- or right-hand side of a web page.

[5] It should be noted that all the variables listed in Table 2 were used in the regression model, and that only the variables that remained statistically significant were included in the final model.

[6] Used as a synonym for corporate websites.

Acknowledgements:

The author would like to thank the three anonymous reviewers and the Editor of *Management Dynamics*, Prof Christo Boshoff, for their time and input, which has been most helpful in refining and improving this article.

All correspondence should be directed to: Dr George Nel, School of Accountancy, Stellenbosch University, gfn@sun.ac.za

www.manaraa.com

Reproduced with permission of copyright owner. Further reproduction prohibited without permission.

www.manaraa.com